

KNOWING AS AN INTRA-EXPERIENTIAL AFFAIR:
TOWARD AN EPISTEMOLOGY OF RELIGIOUS FORMATION

A Dissertation
Presented to
the Faculty of the
School of Theology at Claremont

In Partial Fulfillment
of the Requirements for the Degree
Doctor of Philosophy

by
Sharon Ruth Warner

May 1993

© 1993

Sharon Ruth Warner

ALL RIGHTS RESERVED

This dissertation, written by

Sharon Warner

*under the direction of _____ Faculty Committee,
and approved by its members, has been presented
to and accepted by the Faculty of the School of
Theology at Claremont in partial fulfillment of the
requirements for the degree of*

DOCTOR OF PHILOSOPHY

Faculty Committee

Ally Moore
Chairman

Mary Elizabeth Moore
Jane Verheyden

Date *April 19, 1993*

Ally Moore

ABSTRACT

Knowing as an Intra-Experiential Affair: Toward an Epistemology of Religious Formation

Sharon R. Warner

This study explores the nature of religious knowing. More specifically, it is an analysis of faith knowing as the knowing of "deep truth." Deep truth constitutes that knowledge which forms the identity and self understanding of the knower. How one comes to know faith as the internal core of one's being is the central thrust of the study. Deep knowing of faith emerges through experience. Thus, this study is an analysis of the patterns of experience which function to engender and sustain faith knowing of deep truth.

After defining the fundamental concepts of knowledge, experience, deep truth, and faith, the study examines the mitigating effects of Cartesian epistemology for faith knowing. Chapter 2 explores Descartes's concept of the knowing experience, especially his dualistic categories of experience: subject-object, mind-body, and reason-affect. The Cartesian paradigm presents a fundamental problem to faith knowing of deep truth by its denial of epistemic validity to quality, ambiguity, interrelationships, and wholeness.

In light of the Cartesian epistemological dualisms and their reductionistic concept of knowing, this study turns to

two theorists for a more wholistic explication of knowing. Chapters 3 and 4 explore the epistemological paradigms of Alfred North Whitehead and Michael Polanyi. The analysis of the patterns of experience in these two paradigms focuses upon the contributions of each toward undercutting the Cartesian dualisms and toward establishing a paradigm for faith knowing of deep truth.

Drawing upon the work of Whitehead and Polanyi, Chapter 5 presents an epistemological paradigm for faith knowing of deep truth. The paradigm is analyzed in its three forms: its process, its categories of knowledge, and its fundamental characteristics. The ontological nature of deep knowing of faith depends upon a knowing experience which fosters the interpenetration of subject and object and the act of reliance upon. The categories of deep knowledge are: perception, conception, non-sensuous, and action. Deep faith knowing is characterized by: embodiment, concreteness, passion, intention, personalness, wholeness, and meaning. In Chapter 6 the study concludes with a pedagogy, which explores the implications of this epistemology for the teaching of faith knowing of deep truth.

„

TABLE OF CONTENTS

| Chapter | Page |
|---|------|
| 1. Introduction | 1 |
| Purpose | 1 |
| Definitions | 7 |
| Thesis and Procedure | 19 |
| 2. Historical Context: Descartes | 30 |
| Characteristics of the Paradigm | 35 |
| Implications for Knowing | 85 |
| The Need for an Alternative | 101 |
| 3. Alfred N. Whitehead | 123 |
| Method | 125 |
| Characteristics of the Paradigm | 128 |
| Response to Dualisms | 146 |
| Conclusion | 203 |
| 4. Michael Polanyi | 227 |
| Critique of Positivistic Epistemology | 230 |
| Components of the Paradigm | 236 |
| Response to Dualisms | 269 |
| Epistemological Implications | 313 |

| | |
|--|-----|
| Conclusion | 329 |
| 5. Epistemology of Deep Truth | 361 |
| Process of Knowing | 363 |
| Intra-Experience | 364 |
| Subject-Object Interrelationship | 369 |
| Being | 390 |
| Reliance | 394 |
| Categories of Knowledge | 405 |
| Characteristics of the Paradigm | 416 |
| Embodiment | 416 |
| Concreteness | 423 |
| Passion | 433 |
| Intention | 435 |
| Personal | 438 |
| Wholeness | 441 |
| Meaning | 447 |
| The Knowing of Mystery | 454 |
| 6. Pedagogy of Deep Truth | 477 |
| Teaching as Connoisseurship | 479 |
| Pedagogical Practices | 481 |
| Conclusion | 517 |
| Bibliography | 525 |

ACKNOWLEDGMENTS

A work such as this never emerges in a vacuum. While I accept the responsibility for it, I do not claim to be its creator. The creation of this work on knowing faith has coalesced through the gifts to me from many persons. While some can be named, many others lie tacit within me. I hope that in making some explicit, the recognition of those tacit influences may be intuited.

I owe more than can ever be acknowledged to Green School in Roseburg, Oregon, and especially to Leone Dickinson, who was my supervisor during my first year of teaching, and my mentor for many years to come. Leone embodied what I have learned to call the teaching of connoisseurship. Her love for the teaching-learning interaction and her imaginative teaching practices continue to shape my own vision of the art of teaching. She awoke in me a passion for teaching; twenty-five years later, I am still nourished by its intensity.

In all probability this dissertation would not have been accomplished without the nurture of Northwest Christian College, Eugene, Oregon, where I taught for many years, and

specifically, of Herbert Works, a faculty colleague. Herb saw in me what I did not see myself, a gift for the teaching ministry. His affirmation and continual encouragement gave me the confidence and courage to embrace that gift. For Herb, and Northwest Christian College, I am deeply grateful; their recognition and nurturing of my call to ministry continues to empower me.

The discernment into the spiritual dimensions of teaching and living, which informs both the content of this dissertation and my energy for "keeping at it," is a gift from Monza Naff, a colleague and a companion on the journey. Monza's gift for cultivating the depths of transcendence within her teaching has taught me much about the art of spiritual teaching. Further, her personal striving for excellence and her loving nudge to me to also risk for that excellence continues to nurture my work and my being.

My doctoral work, including this dissertation, has been profoundly shaped by The School of Theology at Claremont, and specifically by Allen Moore and Mary Elizabeth Moore. I am deeply grateful for Allen's belief in me. The influence of his support and encouragement during these years is unmeasurable. I am also deeply grateful for Mary Elizabeth's discerning vision for process and feminist teaching. Through her courses, her teaching ministry, her presence, (as well as her detailed reading of this dissertation,) I have caught a

vision of what the implementation of this dissertation might look like.

The acknowledgments which precede this dissertation would not be complete without expressing my gratitude to Lexington Theological Seminary, its faculty and staff. Their support of me over these years, expressed both verbally and in shifted works loads, is a gift I can only humbly receive and say "Thank you." My thank you is expressed specifically to Barbara Miller who has patiently given countless hours to the typing and retyping of this manuscript.

Finally, the work of this dissertation, both the vision which calls it into being and my commitment to undertake it, has been deeply shaped by my parents, H. Glenn and Phyllis Warner. From them I learned faith as deep truth, that truth which forms my very being. Their knowing of faith, which they lived in my presence, nurtured in me a sensitivity to a kind of knowing which resides at the depths of a person's way of living. Further, in their unconditional support and encouragement of me in all that I have undertaken, I have received a gift which I hope I can acknowledge by passing it on. Although Dad is not here to see the end of this undertaking, I gratefully acknowledge the presence of both these people of deep faith in this work.

CHAPTER 1

Introduction

The modern age began to come to an end when [people] discovered that they could no longer understand themselves by the theory professed by the age.¹

Purpose

The theory of the nature of knowing and knowledge has engendered a crisis of self understanding and ethical decision making within the modern era. The human capacity to know and to operate on the basis of that knowledge has paradoxically ushered in a world of space exploration, of life spawned in a test tube, of inter-global instantaneous communication, and at the same time, a confusion of meaning, a disintegration of values and relationships, and an increasing resort to the individual as the source and measure of reality.² The linkage between the theory of knowing prevalent in the modern world and its existential condition emerges in the discernment that the dominant view of the modern world is that "we can know only that which we can count, measure and weigh."³ Since feelings, the will, intuition, insight have little to do with knowledge, such entities as purpose, meaning, and values become unknowable, and commensurately dismissed from the

category of reality. Religious knowing has been caught in the fall from credibility which has characterized the modern world's epistemological suspicion of anything that cannot be counted, measured and weighed.

This study addresses the nature of religious knowing and religious knowledge. As an apologetic for faith as a knowing experience, the study explores how knowing itself is conducive to the knowing of faith. But more specifically, the study seeks to establish the contours of knowing which engender faith knowing as the knowing of "deep truth." "Deep truth" constitutes the knowledge which forms the very self understanding and identity of persons.⁴ The knowing of "deep truth" intrinsically draws upon the knowing of meaning, purpose and values. Faith knowing which functions to constitute the very being of persons is a knowing which cannot be reduced to count and measurement.

The knowing of deep truth is a function of experience. Historically the epistemological analysis of experience has been shaped by dualistic thinking. Knowing is perceived as evolving by means of a dualistic relationship between a subject and an object. Such analysis posits knowing as a bridging of the distance between a subject, limited by subjective feeling and embodiment, and an object, known through objective reason and mind. Consequently, this subject-object dualism further spawns correlative epistemological dualisms of feeling-reason and body-mind.

This epistemological analysis of experience is essentially problematic for religious knowing of deep truth. Historically, it has engendered three orientations toward experience, each of which has mitigated the religious knowing of deep truth.

One orientation spawned by the dualistic analysis of experience has been the denigration and even denial of experience as an epistemological category. Grounded in the mind-body dualism, Descartes's assertion that one could obtain knowledge by means of the rational analysis of the contents of the mind functioned to remove experience from epistemological esteem,⁵ and ushered in the rational movement which is so influential in the modern world. Faith knowing becomes problematic in this non-experiential knowing, for one cannot know mystery by rationally thinking it through.

A second orientation toward experience consequent to its dualistic analysis is the discernment of experience as essentially dichotomous. Experience is composed of distinct spheres which are separate and known only by and through their own terms. This epistemological orientation toward experience has spawned various theories of the distinct and separable realms of faith and reason, religion and science. The orientation is problematic for religious knowing of deep truth, for the knowing which engenders being and identity involves the integration of all parts of the knower's

experiences; such knowing engages the whole of the knower. Schizophrenic knowing cannot ground deep truth.

A third orientation toward experience discerned dualistically is the epistemological equation of experience with sense perception. The subject-object and mind-body dualisms divide knowledge into categories of ideas and sense perception. The Cartesian isolation of mind from matter and equation of experience with sense perception of matter undergirds the empirical epistemological tradition of the scientific world view. Even though empiricism establishes a different epistemological methodology, it shares with Cartesian rationalism the dualistic ground of knowing. Grounded in that Cartesian dualism, scientific empiricism elevates sense perception and the rational reflection upon it to the status of being both the paradigm for all knowing and the criterion for all truth. This dualistic understanding of experience and its elevation to ultimacy of one portion is problematic for religious knowing. As it responds to the question "What counts for knowledge?" with the resounding "that which is empirically rational," an impediment to religious knowing is erected. The splitting apart of experience permits the scientific empirical paradigm's equation of knowledge with what is in reality only one part of experience, sensory perception. Since faith is not grounded in sense perception, such equation eliminates faith from the activity of knowing.⁶ In this orientation, believing

does not carry epistemic justification and therefore is not to be counted as knowledge.

The need to "heal the wound of dualism" galvanizes the search of this study for a fuller sense of knowing which is commensurate with the faith knowing of deep truth.⁷ Experience discerned dualistically mitigates such knowing because of its inability to embrace and understand the whole. The knowing which engenders being and identity is anchored in the wholeness of the knower and his/her experience. This accent upon wholeness does not deny the presence of different components within the whole, or even the primacy of some components over others; but the accent upon wholeness does delegitimize the dualistic separation and self-containment of varying components.

The differing components within experience are epistemologically discerned dualistically when one does not have a vision of the whole. Methodically, two processes can be used to obtain a vision of the whole. One process is to step back to gain an objective view; by distancing oneself from the experience, one can view the whole. Analogous to the experience of space astronauts who from a distance find the political boundaries of earth to have disappeared, leaving the vision of the whole, this method presents wholeness by objectifying what is discerned. However, as a distancing method it is too often accompanied by, indeed, dependent upon, separation and non-involvement. In contrast to this method

of stepping back from, a second process for obtaining a vision of the whole is the stepping deeper into the experience, getting underneath its surface and discerning from reflections upon its depths its constitutive nature. In this method, metaphysical reflection is used to discern the whole. In contrast to the distancing method, metaphysical reflection engages one in experience and asks for reflection from within it.

This study of the knowing incipient within the faith knowing of deep truth employs metaphysical analysis to explore the fundamental nature of knowing. Knowing is anchored in and emerges from reality. What is deeply known at the core of the human knower are those fundamental convictions which the knower understands to be the nature of reality and which, because of their fundamental nature, inform how he/she is to be within that reality. Thus, this study seeks a radical epistemology -- an epistemology in the etymological tradition of "radical," from radix, meaning "at root, more at root, proceeding from a root."⁸ The faith knowing of deep truth seeks those "notions which strike more deeply into the root of reality," those fundamental terms which emerge only "by reference to some definite metaphysical way of conceiving the most penetrating description of the universe."⁹ Only a metaphysical rootage of knowing can illumine the kind of knowing which is experienced as deep truth.

Definitions

This study employs several fundamental concepts. Four are defined here: knowledge, experience, deep truth, and faith.

Knowledge

Knowledge, as the noun, and knowing, as the verb, are human constructs which name a person's claim to discern reality. Knowledge and knowing definitively satisfy two conditions: a truth condition and an evidence condition.¹⁰ Knowledge is the claim to discern what is true, what actually corresponds to reality. Further, knowledge is truth established on the basis of evidence. Both the truth condition and the evidence condition are necessarily inherent in knowledge. Thus, all truth claims may not be knowledge; only those established on the basis of evidence can be asserted as knowledge. One may claim that it is true that dogs can fly, but one may not claim that he/she knows that dogs can fly. Knowledge is the holding of a truth claim which is grounded upon evidence of its veracity vis-a-vis reality. Knowing is the activity by which one comes to such knowledge.

Four fundamental questions are evoked by this definition of knowledge and knowing. One question is what counts as evidence? Contrary to the historical epistemological attempts of both the Cartesian and scientific empirical paradigms to authenticate a sharp and narrowly bounded answer to this question, this study resists the reductionist definitions of

evidence as what is self-evident, what is given to the senses, or what can be rationally deduced. Rather, this study anchors evidence in experience, understanding experience to be a relationship with reality. (See the following discussion of experience for an expanded definition.)

A second question is can one know what is false? Some epistemological theorists assert that it is impossible to know what is false, for knowledge necessarily must be true. Thus, if a person says she knows that Louisville is the capital of Kentucky, she states a logical impossibility for she cannot know that, since Frankfort is in fact the capital of Kentucky.¹¹ This is a logical argument, but it is not fully adequate. This study asserts a different argument: in order for knowledge to fulfill its truth condition, the claim to truth on the basis of evidence is the deciding factor. The truth condition must be met at the time one asserts the knowledge claim. If later one discerns that what one knew to be true is indeed false, the new information does not negate the past assertion as being knowledge. One can know now that what one knew in the past was false. In the present context, that information or idea is not knowledge, but it was knowledge at the time and in the context in which it was claimed to be true on the basis of evidence. Thus, the possibility exists both logically and existentially to know what is false. Knowers can be mistaken and still claim to know.

The third question is whether reality, and therefore the truth and knowledge it evokes, is static? Since knowledge is a truth claim about reality, the question of the nature of reality inheres in epistemology. Through metaphysical analysis this study posits that knowledge and reality are interactive, so that "what is" is never static. What is claimed to be true at the moment may function to create its own truth by shaping reality to correspond with it and thus verify its status as knowledge. Thus, there is a sense in which humans live themselves into knowledge through their knowing; their knowing becomes constructive of reality.

The fourth question is whether knowing is to be equated with understanding? Understanding is a form of knowing, but not all knowing is accompanied by understanding. Understanding is a "cognitive process of structuring experience or data,"¹² a process of making knowledge intelligible. Thus, humans know much more than they understand. In this study knowing is construed as more basic and primal than understanding; thus, the affirmation "I know, but I do not understand," not only bears epistemic validity, but often names the depth experience of knowing itself. To know without understanding is to confront and embrace the limits of understanding and to know that which cannot be comprehended.¹³ The faith knowing of deep truth is not bounded by intelligibility, but rather has the capability of moving through, around, beneath, and beyond understanding.

Experience

"Of Experience"

Have you ever watched children trying to divide a quantity of quicksilver into a certain number of parts? The more they squeeze it and torment it and try to force it to obey them, the more they provoke the freedom of that noble metal; it escapes their ingenuity and keeps scattering into little particles beyond all reckoning.¹⁴

To define experience is to reckon with a concept "beyond all reckoning." Nevertheless, some clarity can be extricated from the ambiguity which accompanies the common use of the concept. The etymology of the word experience discloses its origins in the Latin word experiens, meaning "to try, to prove, to test," and in the Greek words peros, "a way through," perevein, "to convey," and peran, "to pass through."¹⁵ The Indo-Germanic root erfahren (experiri) brings a nuanced shift with its meanings: "to explore by travelling," and "to acquire experimentally." Thus, the German version of the experienced person as the "travelled one" resonates with the Romance language version of expert or peritus, the one who gathers his/her insights by trial, attempt, error and confirmation.¹⁶

The equation of empiricism and experience often suffices to define experience. However, the reductionism of such an equation becomes evident when one begins to identify experience which is not encased by sensory perception. J. Mouroux suggests that experience is inclusive of three

dimensions: empirical, experimental, and experiential.¹⁷ Empirical experience denotes the reception of sensory data, the observation of such data and its evaluation. Experimental experience makes reference to the activity of trial and error. Implicit within this dimension of experience is the presence of novelty and the search for the new.¹⁸

This study employs the concept of experience within the third dimension, the dimension of the experiential. While the dimension of the experiential is inclusive of sense perception, and of trial and error, it is more than either one. The experiential dimension denotes the relational matrix which is participated in by the knower.¹⁹ The act of participation constitutes an experience. Participation requires an act of relating; thus, experience is intrinsically relational. Because of this participatory nature, experience is direct, having a quality of first-hand relationship.

The concept of experience within this study is further clarified by several distinctions from its use in other contexts. The empirical tradition anchors its view of experience in the construct of "stimuli reaching the brain."²⁰ In contrast to this accent upon experience as passive receptivity, this study views the participatory requirement of experiential experience to intrinsically involve synthetic activity on the part of the one participating. In contrast to the concept of experience as denotative of a memorable, or mountain top event,²¹ experience in this study is discerned

as commonplace. In contrast to the emphasis that experience must be consciously perceived in order to be experienced,²² the assumption of this study is that experience can be both unconscious and conscious.

Deep Truth

This study focuses upon the knowing of deep truth. As a construct within this study, deep truth refers to the kind of knowledge which is formative of one's self understanding and way of being in the world. In line with Ortega y Gasset, deep truth denotes knowledge which is not so much constituted by "ideas which we have, but by ideas which we are." Gasset's formulation of creencias offers a provocative analysis of knowledge which functions as deep truth. Creencias are ideas we live "from" or "out of."²³ In contrast to ideas which we discover, produce, support and argue with, creencias are those ideas which

we do not produce, for which we cannot even account normally, and which we neither argue, nor spread, nor support. Ultimately we do nothing at all to these certainties of faith, we simply live "in" them ...; with a sure sense, popular language found the expression "to live in the faith." Indeed, one is in faith and one has and maintains a thought; but faith is that which "has" us and maintains us. There are therefore ideas with which we encounter ourselves ... and there are creencias in which we encounter ourselves, which seem to be present before we begin to think.²⁴

Deep truth denotes an idea which so fills the mind that the knower "thinks by it."²⁵

Ideas in which and by which the knower lives function as ideas which constitute his or her identity. Thus, the distinction between "ideas which we have" and "ideas which we are" is rooted in personal life experiences. While not always sharply defined, the distinction might be illustrated with the concept of church. For some people, the idea that God relates to persons in and through a community resonates deep within them, and it functions as an "idea which they are." To be a person is to be a person in community, and to be a person of God is to be a part of a people of God. For these persons, self-understanding is grounded in community relationships. For other people, the idea of church is defined by beliefs about community and the people of God; for them, a belief that God relates to persons through a community is held in a similar way to the belief that Toyotas are the best cars. The belief is not internal to their self-understanding. These ideas exist for them as "ideas which they have." While the distinction between these two categories of ideas is not intended to posit their separation, this study is focused upon deep truth, a form of knowing in which the "ideas which we have" have become "ideas which we are."

Contrary to being peripheral, the ideas which constitute deep truth are so central to the self that to change them would be to change one's identity. Residing at the core of the self, deep truth is similar to Thomas Green's concept of core beliefs. A core belief is "one held with such

psychological strength and regarded as so important and basic that it is not easily subject to investigation or dispassionate discussion."²⁶ Deep truth is passionately held. Thus, because of its nature as passionate conviction, but also because of its function in mediating other knowledge, deep truth often resists explication.

Implicit within the definition of deep truth as knowledge of identity and self-understanding are two descriptive corollaries. Deep truth denotes fundamental epistemological forms, concepts, and structures which underlie surface knowledge. In many ways deep truth resonates with Erik Erikson's concept of basic attitudes and postures pervading life experiences. Erikson's concept of basic trust denotes knowing as "a sense of." Knowing as "a sense of" functions as a substratum for what is discerned at the surface.²⁷ Similarly, deep truth constitutes knowledge which subserves one's epistemological assertions and actions. It both grounds and pervades noetic life.

Deep truth as the knowledge of self identity is further described through a second corollary, the concept of "ontological knowing."²⁸ Deep truth denotes the knowledge which dialectially shapes and emerges from being. One's knowing or unknowing about the light years existing between the earth and the farthest galaxies presents little consequence for one's lifestyle decisions and commitments. However, one's knowing or unknowing about a polluted global

environment places at stake the very identity of the knower as one who lives in terms of his/her knowledge. In the ontological knowing of deep truth, knowledge makes a claim upon a knower's way of living, upon the knower's practices and actions. Resonating with Thomas Groome's call for an "epistemic ontology," the construct of deep truth embodies an "ontological turn" within epistemology.

The nature and purposes of Christian religious education require that we promote personal cognition as a critically reflective, dialectical, and dialogical process that encourages a "right relationship" between knower and known in a community of discourse and that we broaden our concern beyond simply cognition. The incarnational principle that stands at the heart of Christianity demands a pedagogy that is grounded in and shapes people's ontic selves--their identity and agency in the world. For instance, our aim is not simply that people know about justice, but that they be just, not only understand compassion but be compassionate, and so on. We are, then to attend to all dimensions of human "being" and articulate our most basic philosophical foundation and task as ontological rather than simply epistemological. We need to make an "ontological turn" in the very foundations of Christian religious education.²⁹

Deep truth constitutes the knowing which both engenders and reaps from the way persons are in the world.

Faith

This study addresses the knowing which is incipient within, and sustaining of, faith. Faith is different from belief. This assertion is not to be construed as setting faith over against belief; indeed, the two are intimately related. The assertion simply distinguishes between the two.

Thus, a definitive explication of faith is served by placing it within the context of the distinction.

Believing engages one in holding an idea to be true with the mind. The belief is a conceptual formulation and often is linguistically linked with propositional truth. Thus, believing is rooted in the activity of thinking and is intrinsically interwoven with the search for understanding.³⁰

In his comprehensive study of the evolving meaning of belief, Wilfred Cantwell Smith explicates the historic recentness of the concept of belief as an ideational formulation. In the context of the biblical world, the early and medieval church, and the pre-Enlightenment and Enlightenment eras, belief was understood in the line of the Latin credo. From cor, cordis, meaning "heart," and do, dere, meaning "to put," credo literally meant "I set my heart."³¹ Thus, for Aquinas and others of these eras, to believe was to pledge allegiance, to give one's loyalty. Smith's etymological analysis further shows that the German counterpart of the English word believe, belieben, still holds today to that traditional meaning. As its root liebe, "to love," would indicate, belieben means "to hold dear," or "to prize." In contrast to this background, the post-Enlightenment English concept of believe refers to an activity of positing ideas to be true. While the claim "I believe in God" in past centuries served as a heart statement, as a loyalty pledge, the claim today serves as a statement of mental assertion that, given

the possibility that God might not exist, "I think God does exist."³² This decisive shift in the meaning of believe, from putting one's heart to asserting a state of mind, undercuts any contemporary usage of belief as fundamental for the knowing of deep truth.

Faith, as understood in this study, reclaims the concept of putting one's heart, which, until the last century, has defined the act in believing. More than an intellectual response, faith is indicative of a trusting and entrusting act in relationship, specifically, in relationship with God. More than even loyalty, faith is constituted by a reliance upon God. More than acceptance, faith is engagement with God. In this definition several presuppositions need to be made explicit.

One, faith is a mode of knowing; it is rooted in and constituted by a discernment of truth.³³ In contrast to Mark Twain's notorious definition, "faith is believing what they know ain't so," this study claims that persons do not set their heart on what they know is not true. In fact, the depth of the act of setting one's heart compels a knowledge of the truth of what one sets his/her heart upon. The experience of confidence in, specifically, confidence in God, accompanies the act of setting one's heart upon God. Not all knowing engenders faith; but all faith includes knowing.

Two, since the knowing of truth may not engender faith, faith is to be understood as a special form of discerning

truth. As Wilfred Cantwell Smith posits, faith is the knowing of truth, but beyond that, faith is the addition of heart to that knowing. In the context of sraddha, faith is described by Smith as a way of knowing, a knowing that is done with delight.

[There] is a certain delight, as it were, in that with which one is involved. Thus, sraddha is contrasted with murmuring, complaining. One might accept a given teaching, an obligation, a tie, or whatever, but grudgingly, wishing it were otherwise. To accept it with sraddha, on the other hand, is to put one's heart in it in the sense of doing so without sulking; indeed of being pleased that it is so.³⁴

Faith is the knowing of truth in a special way. The trusting embedded in heart knowledge is accompanied by a deep sense of joy, of delight.

Three, faith in this study is understood as a fiduciary relationship with transcendence, and more specifically, with God. The concept of faith in much of the literature describes a generic and universal human orientation which has no necessary linkage with a particular reference.³⁵ In contrast to that concept of faith, this study links the concept of faith, and how humans learn to set their hearts, with the transcendent. Faith thus names the act of setting one's heart upon the Holy One.

Four, faith primarily functions as a responsive mode of knowing. More specifically, faith is the active response of committing to and engaging with transcendent truth. In contrast to the Catholic and Reformed traditions in which

faith is posited as primarily a gift, this study understands faith as a response to the gift of transcendent truth.

Distinguishing between belief and faith is not fully adequate for understanding how faith functions. Faith and beliefs are always intertwined within the Christian religious life.³⁶ Faith is the primary mode of religious knowing; however, beliefs flow from, as well as feed, and often deepen, the knowing of faith.³⁷ As explications, beliefs are signs of faith and also means of engendering and nurturing faith. This study addresses the issues of faith knowing and includes belief formation only as beliefs function to deepen faith.

Thesis and Procedure

This study explores how the faith knowing of deep truth occurs. The thesis of the study is that the deep truth that forms us emerges from experience, and more specifically, from experience whose patterns of relationship between the knower and the known radically undercut the subject-object and correlative dualisms, and thereby foster wholeness. This study seeks to dissipate epistemological dualisms and elevate epistemological wholeness. It does so through two means. One is to shift the basic epistemological question itself. The common epistemological question is how does an external object become known by a knowing subject? The dualisms of subject and object are presupposed and reinforced. This study shifts the basic epistemological question to how does the knowing experience function to bring about knowledge? Thus,

experience becomes primary; subject and object become derivative.

A second means is by the analysis of the patterns inherent in experience, patterns which function to undercut dualistic epistemological premises. These intra-experiential patterns are both conscious and unconscious and are best discerned metaphysically. Although not all knowing experiences overcome the dualisms, this investigation seeks to show how experience, specifically the experience of knowing, does occur. When knowers cooperate with it, and do not work against it, they can and do find experience to engender the interpretation of subject and object, an act which underlies the wholeness of deep knowing.

Several assumptions inform this study:

1. Faith knowing is not qualitatively different from all knowing of deep truth. Thus, general epistemological theory has relevance for religious education epistemology.

2. Prior to any decisions in religious education about what to teach and how to teach, one needs to address the nature of faith knowledge. The content and process of religious education need to be predicated upon and congruent with the nature of faith knowing.

3. Faith knowing needs to be grounded in the knowing of deep truth, which empowers it for the shaping and sustaining of faithful living. Further, the pedagogy of religious education needs to aim primarily toward such knowing.

4. Metaphysical grounding is essential for an epistemology of deep truth.

This study of the faith knowing of deep truth will begin by examining the problems of dualisms within historical context, dualisms which impede that knowing. Probably more than any other epistemological theorist, Descartes historically stands as the strongest proponent of dualistic thinking. The continual influence of his theory upon epistemology cannot be overestimated. Many of the problems in the epistemological conception of experience which inhibit the knowing of deep truth owe, if not their genesis, at least their contemporary epistemological power, to the salient tenets and rubrics of Cartesian theory. Although many contemporary scientific and philosophical theorists are moving away from Cartesian and positivistic epistemology, the common world view is still entrenched in it.³⁸ Thus, this study begins by exploring the Cartesian epistemological paradigm and its incipient dualisms.

Following that analysis, the study turns to two theorists for alternative epistemological paradigms, Alfred North Whitehead and Michael Polanyi. The investigation into each paradigm will first explore the paradigm's theoretical understanding of experience and its patterns, and then explicate how the paradigm responds to the three dualisms. In the fifth chapter, an epistemological paradigm of the faith knowing of deep truth is offered. Finally, because an

intimate relationship exists between the process of knowing and the act of teaching, the study concludes by exploring the pedagogical practices which are called for by such an epistemology.

The intent of the study is to offer a way to discern human knowing, and more specifically, faith knowing, wholistically. In the radical integration of subject and object, of knower and known, the dualisms mitigating the knowing of deep truth are undercut. With this fertile epistemological ground and its congruent seeds of teaching practice, religious education can nourish and sustain in the human knower the Divine gift of deep truth.

NOTES

Chapter 1

¹ Walker Percy, The Message in the Bottle (New York: Farrar, Straus & Giroux, 1954), 25, cited in Donald W. Oliver with Kathleen W. Gersham, Education, Modernity, and Fractured Meaning: Toward a Process Theory of Teaching and Learning (Albany: State University of New York Press, 1989), 5.

² This general description self consciously claims only to be a description of the modern spirit of the times in the Western world.

³ Douglas Sloan, "For the Record," Teachers College Record 82 (Spring 1981): 373.

⁴ The construct "deep truth" is definitively explored in the subsequent section on definitions. See page 12.

⁵ Werner Schneiders, "Experience in the Age of Reason," trans. John Griffiths, Revelation and Experience, eds. Edward Schillebeeckx and Bas van Iersel (New York: Seabury Press, 1979), 23.

⁶ Thomas Green argues this radical separation of knowing and believing in his educational philosophy. He asserts that "[t]here are strong considerations leading to the view that knowing and believing are not simply different in degree, on a continuum as it were, the one being simply a very strong version of the other, but that they are different in kind. It might turn out that knowing and believing are not of the same logical type at all and that in fact they are so radically different in kind that one needs to understand not their similarities but their substantial differences." Green then poses a situation of seeing what one thinks to be a car in the distance. The fact that one says "I believe that is a car" when seeing it from a distance and then shifts linguistic modes to "I know this is a car" when coming upon it indicates that believing and knowing are of different logical categories. He concludes: "I have argued, in effect,

that the concept of 'knowing' functions in precisely those contexts where the concept of 'belief' cannot function; and vice versa, the concept of 'belief' functions precisely where the concept of 'knowing' does not. Hence, they are mutually exclusive rather than related concepts." Thomas F. Green, The Activities of Teaching (New York: McGraw-Hill, 1971), 70-71.

⁷ The phrase "heal the wound of dualism" belongs to Ynestra King. See King, "Healing the Wounds: Feminism, Ecology, and Nature/Culture Dualism." Gender/Body/Knowledge: Feminist Reconstructions of Being and Knowing, eds. Alison M. Jaggar and Susan R. Bordo (New Brunswick: Rutgers University Press, 1989), 115.

⁸ Stephen Schmidt, guest editorial in Religious Education 82 (Summer 1987): 340.

⁹ Alfred N. Whitehead, Religion in the Making (New York: Macmillan Co., 1926), 127, 76. This writer must confessionally admit that in Robert S. Brumbaugh's words, "a new metaphysical insight, genuinely felt, is an intoxicating thing." Robert S. Brumbaugh, Whitehead, Process Philosophy, and Education (Albany: State University of New York Press, 1982), 17. Thus, the motivation for a methodology of metaphysical analysis is both rational and passional.

¹⁰ Green, 70.

¹¹ Thomas Green is a strong example of this position. Green anchors his position in his premise of the categorical distinction of believing and knowing. Green argues: "Suppose that some particular individual, Adams, says, 'I know that there are fifty students in the chemistry class.' Suppose, moreover, that some other individual, Barnes, ascertains that there are, in fact, sixty in the class. Would it follow that Adams does not know that there are fifty in the class? It would. That is the way we would normally describe the situation. We would say, 'Barnes knows that there are sixty in the class' and 'Adams thinks he knows how many there are' or 'Adams believes there are fifty.' In short, we would not admit that Adams knows how many are in the chemistry class unless he is correct. In general, when we say, 'I know that Q' or 'He knows that Q' or, more generally, 'A knows that Q,' we are asserting, among other things, that Q is true. We might, of course, be mistaken in thinking that Q is true. But in that case we are also mistaken in claiming to know. There can be false beliefs, but there cannot be false knowledge." Green, 66.

¹² Charles F. Melchert, "'Understanding' and Religious Education," Process and Relationship: Issues in Theology, Philosophy and Religious Education, eds. Iris V. Cully and Kendig Brubaker Cully (Birmingham: Religious Education Press, 1978), 43. Later Melchert links the cognitive process of understanding with the relational and passional process of being understanding and affirms that the latter is integrally related to the former (p. 44). In a subsequent work Melchert explores the complexity of the concept of understanding by positing seven linguistic usages of "understanding": naming, meaning, immediate experience, empathetic, how to, why, and agreement with another. Charles F. Melchert, "'Understanding' as a Purpose of Religious Education," Religious Education 76 (March-April 1981): 178-81.

In Melchert's latter work his very helpful analysis places the linguistic and common use of the term "understanding" closer to the way "knowing" is used in this present study. However, the seven linguistic usages must be discerned as ways in which humans come to understand and not as equivalent names for "understanding." For those modes do not necessarily lead to understanding. For instance, immediate experience (I have an immediate experience of being fired from my job, but I don't understand the experience), or relationship (I empathize with Sue's loss of her husband, but I don't understand her experience), or how to (I know how to use the telephone, but I don't understand it), often do not engender understanding. These seven modes cannot be used as definitions of understanding. The basic definition of understanding remains as "making intelligible" that which is known. Thus, the modes may lead to knowledge, a knowledge which is not accompanied by the additional epistemological quality of understanding.

¹³ Craig Dykstra, "Understanding the Place of 'Understanding,'" Religious Education 76 (March-April 1981): 192-94. Dykstra refers to Kierkegaard in this discussion and offers a provocative analysis of Kierkegaard's insights into the place and role of understanding in the insight and transformation incipient within religious knowing. "Kierkegaard knew that understanding was not ultimate in the religious life and that ultimately it breaks in encounter with the real. He knew that the purpose of the enterprise of religious education (unless it became a lie) was not understanding, but a decisive confrontation with the limits of understanding. Kierkegaard also knew, however, that that confrontation could never take place outside of the struggle to understand. It is only through understanding that its limits are known" (p. 194).

¹⁴ Michel De Montaigne, "Of Experience," cited in Alan Pasch, Experience and the Analytic: A Reconsideration of

Empiricism (Chicago: University of Chicago Press, 1958), front flap.

15 V. Bailey Gillespie, The Experience of Faith (Birmingham: Religious Education Press, 1988), 34.

16 Dietmar Mieth, "What Is Experience?" trans. Sarah Twohig, Revelation and Experience, eds. Edward Schillebeeckx and Bas van Iersel (New York: Seabury Press, 1979), 42. See also C. Ellis Nelson, How Faith Matures (Louisville: Westminster/John Knox Press, 1989), 83.

17 J. Mouroux, L'Experience chretienne, Introduction a une theologie, (Paris, 1952), 24, cited in Mieth, 43.

18 See Mieth, 43, 50-51.

19 Mary Elizabeth Moore distinguishes between thinking about an idea and thinking into an idea. She names the former, critical reflection, and the latter, depth reflection. Depth reflection "is immersing oneself in an idea or event." See Moore, Education for Continuity and Change: A New Model for Christian Religious Education (Nashville: Abingdon, 1983), 130.

20 Nelson, 118. Even though the behaviorist school defines experience as interaction it is rooted in this concept of a stimulus reaching the brain and mechanically eliciting a response. The interaction of this experience does not allow for the depth of the experiential dimension which accents synethic interaction.

21 Nelson uses "experience" as denoting "a unit of life that has arrested our attention." See Nelson, 125.

22 Gillespie, 34. Although Gillespie disagrees that experience necessarily is conscious, he does affirm its importance. He asserts: "[i]t is obviously true, however, that the experience is not useful to us unless we are actually aware of it." This study disagrees and maintains that experience shapes us whether or not it is consciously perceived.

23 José Ortega y Gasset, Gesammelte Werke, vol. 4 (Stuttgart: Deutsche Verlagsanstalt, 1954-56), 97-98, cited in Karl J. Weintraub, Visions of Culture (Chicago: University of Chicago Press, 1966), 261.

24 Gasset, cited in Weintraub, 261-62.

25 E. F. Schumacher, Small Is Beautiful: Economics as if People Mattered (New York: Harper & Row, 1973), 87.

²⁶ Green, 53. Green further argues that to the degree one holds a conviction passionately one is "close-minded." Sara Little employs the concept of core beliefs similarly. Her position is that core beliefs are held with such passionate loyalty that they "enable us to hold all other beliefs in a way that leaves them open for instruction and inquiry." See Sara Little, "Religious Instruction," Contemporary Approaches to Christian Education, eds. Jack Seymour and Donald Miller (Nashville: Abingdon, 1982), 48. See also her discussion of core beliefs in To Set One's Heart: Belief and Teaching in the Church (Atlanta: John Knox Press, 1983), 14. This equation of passion and close-mindedness must be questioned. While deep truth because of its centrality to one's identity is not easily changed, it is not necessarily linked to close-mindedness.

²⁷ Erik H. Erikson, Childhood and Society, 2nd ed. (New York: W. W. Norton, 1963), 251. Another angle on the conception of deep truth is the construct of deep structure referred to in such arenas as psychoanalytic theory or theory of the arts. In his review of Jean Paris's Painting and Linguistics, Gerald Bruns quotes Paris's analysis of perception as having a dual organization evidenced by the eye's ability to first see one image and then another. As Paris says: "what this retinal rivalry discloses is that far from being determined only by sensorial stimuli, perception implies, even at its most elementary level, a process of interpretation--in other words, that we must ascribe to it a dualistic organization: a surface structure carrying the impression/a deep structure carrying the meaning." Burns then continues: "[t]here is in any percept a deep structure that is never present in perception as a visible design; rather, it is an 'invisible aspect'--a model that we can derive from the percept in order to account for its 'legibility.'" See Gerald L. Bruns, review of Painting and Linguistics by Jean Paris, Journal of Aesthetics and Art Criticism 34 (Summer 1976): 507-08. This provocative analysis of perception offers a glimpse into the construct of deep truth, that deep structure which functions to account for knowledge which is manifest on the surface.

²⁸ Oliver and Gersham, 14. Oliver and Gersham also name this knowing "grounded knowing." By the term they are evoking a sense of knowing which moves behind the "technical knowing" of a technological and problem-solving scientific world to an ontological knowing of connection to a deeper and wider context. While Oliver and Gersham's concept of "ontological knowing" is to be affirmed, deep truth accents the knowing related to being rather than a knowing which is definitively antithetical to technological knowing.

²⁹ Thomas H. Groome, Sharing Faith: A Comprehensive Approach to Religious Education and Pastoral Ministry (San Francisco: HarperSan Francisco, 1991), 8. This ontological nature of deep truth also interfaces with James Fowler's concept of "constitutive knowing," the mode of knowing in which the "constitution or modification of the self is always an issue." See James Fowler, "Faith and the Structuring of Meaning," Faith Development and Fowler, eds. Craig Dykstra and Sharon Parks (Birmingham: Religious Education Press, 1986), 23.

³⁰ See Wilfred Cantwell Smith, Faith and Belief (Princeton: Princeton University Press, 1979), 12, 157; Belief and History (Charlottesville: University Press of Virginia, 1977), 51; and Little, To Set One's Heart, 7-9, 18. While Little affirms that belief is primarily cognitive she does expand its definition to be more "multi-layered," inclusive of affective, volitional and behavioral components. Her expansive definition is shaped by her orientation toward Green's "core beliefs" concept and her revisionist posture toward the contemporary use of belief. Little attempts to re-ground belief in its historical meaning of "credo." (See the subsequent discussion in this chapter.) While that revisionist attempt is to be commended, its practicality and necessity are questionable. Practically, it must be questioned whether the recovery of the pre-Enlightenment concept of believing is possible. Post-Enlightenment living requires a concept of intellectual establishment and assertion of truth. In terms of the necessity of this revisionist attempt, it must be questioned why the concept of belief needs to cover such a wide meaning. The concept of faith can and does function to embrace the multi-layered nature which Little wants to re-claim for belief.

³¹ W. C. Smith, Belief and History, 41. This linkage of believing and heart is further seen in the root of credo as it underlies other such English words as "cordial," "concord," and the cognate "electrocardiogram." In his second volume Smith posits credo as the "first cousin" of the Hindu word sraddha which means "to set one's heart on," coming from sraddha meaning "heart" and dha meaning "to put." See Faith and Belief, 61. His entire discussion of credo is illuminative (pp. 70-78).

³² W. C. Smith, Belief and History, 44. See Smith's exploration of how this historic shift occurred (pp. 45-69).

³³ See Fowler, "Faith and the Structuring of Meaning," 19-23, for one articulation of faith as a knowing.

³⁴ W. C. Smith, Faith and Belief, 64. See also his Belief and History, 61.

³⁵ See James Fowler, Becoming Adult, Becoming Christian: Adult Development and Christian Faith (San Francisco: Harper & Row, 1984), 50-51; and Sharon Parks, The Critical Years: The Young Adult Search for a Faith to Live By (San Francisco: Harper & Row, 1986), xv, 9-10. Fowler himself does address (as does Parks) faith's linkage with the transcendent. However, Fowler's initial discussion (and what is often taken as primary) is informed by Smith's exploration of the Hindu concept of sraddha. Sraddha has no object. Sraddha is the generic disposition of setting one's heart upon. Smith does expand sraddha to a linkage with bhakti, a devotional adoration, so that faith becomes the "awakeness to transcendence accompanied by an adoring devotion to it and a permeating participation in it." But sraddha in and of itself is a generic human orientation whose object is indeterminate. See W. C. Smith, Faith and Belief, 64-65.

³⁶ The use of the adjective "Christian" to modify religious life here is not to be mindlessly read. Smith has called our attention to the fact that the role of belief differs in various religions. While belief plays a major role in the Christian religion, and indeed often functions as the very criterion by which faith can be validly expressed, it does not have that importance in other religions. Rather than beliefs, ritual or practice is often the primary expression of faith. As Smith says, while "virtually all Christians, except perhaps Quakers, are expected to evince their faith in the realm of ideas," to religious persons in other parts of the world it may not have occurred "that as evidence of his or her faith a person should believe something." W. C. Smith, Faith and Belief, 15. See his entire discussion, pp. 13-15.

³⁷ See Little, "Religious Instruction," 47; and To Set One's Heart, 16. See also C. Ellis Nelson, 147-48.

³⁸ "A Conversation with Owen Barfield," Evolution of Consciousness: Studies in Polarity, ed. Shirley Sugerman (Middletown, Conn.: Wesleyan University Press, 1976), 13. Barfield names this phenomenon "residue of unresolved positivism."

CHAPTER 2

Historical Context: Descartes

The epistemological character of the modern world is an historical phenomenon. Its roots lie in a clearly identifiable historical moment; its characteristic premises arise from an historical movement of cognitive revolution. The process of knowing takes place through the relation between self and world. The character of the relation between self and world which informs the contemporary knowing process is a product of the sixteenth and seventeenth centuries' reformulation of self-world relations. During those two centuries the underpinnings of the scientific revolution were laid by Galileo Galilei, Sir Isaac Newton, and Francis Bacon. The hinge point of the transformation of the human mind which characterized this "revolution" resided, however, in the epistemological propositions of Rene Descartes. Descartes's definitions of reality and of knowledge underlie "the modern intellectual temper,"¹ and decisively shape modern philosophy's investigation into the relation between the knower and the known.

Descartes's systematic analysis of self and world escapes easy reduction to simplifications. However, his beginning agenda, to establish the discontinuity between self and world, characterizes the effect of his epistemological propositions. This epistemological goal of certifying the discontinuity between self and world is not to be seen as historically invariant. The self-understanding of oneself as discontinuous from one's world, far from being a universal, ahistorical knowing posture, must be seen as a posture which owes its existence to an historical era and an historical theorist. Descartes's conceptuality of self and world not only departs from earlier knowing postures but also ushers in a new historical era in the human's epistemological relationship with the world. Thus, placing the Cartesian paradigm within its historical context illumines not only this radical shift in world view but also the functioning of the self-world conceptuality within Descartes and within the scientific epistemology of the last two to three hundred years.

Prior to the scientific revolution of the sixteenth and seventeenth centuries the self-world conceptuality in the West was characterized by direct linkage. The knower understood him/herself to be directly linked to the world in which he/she lived. This conceptual linkage functioned as an "ethnocentric and egocentric merger,"² a merger of self and cosmos, of self and reality. During the Middle Ages and the Renaissance the knower was conceived as interwoven with and into the very

being of his/her world. Categories of self and world, inner and outer, human and natural, existed within contexts of continuity and intimate association.³ In his explication of this "participating consciousness," Owen Barfield describes it as a conceptuality wherein the boundaries between self and world were so permeable that the very knowledge of self as a separate entity was indistinct. Barfield explains:

[W]hen we think casually, we think of consciousness as situated at some point in space.... Even those who achieve the intellectual contortionism of denying that there is such a thing as consciousness, feel that this denial comes from inside their own skins.... This was not the background picture before the scientific revolution. The background picture then was of man [sic] as a microcosm within the macrocosm. It is clear that he did not feel himself isolated by his skin from the world outside to quite the same extent that we do. He was integrated or mortised into it, each different part of him being united to a different part of it by some invisible thread. In his relation to his environment, the man of the middle ages was rather less like an island, rather more like an embryo.⁴

Such participation constituted a way of experiencing the world in immediacy.⁵ In this "enchanted world," as Morris Berman calls it, the cosmos was a place of belonging and the members of the cosmos were direct participants in its drama.⁶

Before the scientific revolution the world was more like a garment men [sic] wore about them than a stage on which they moved.... Compared with us, they felt themselves and the objects around them and the words that expressed those objects, immersed together in something like a clear lake of what shall we say? --of 'meaning', if you choose.⁷

Functioning as a world view, this participating consciousness constituted for the pre-modern knower an epistemology of inherent relatedness between self and reality.⁸

The shift in the epistemological world view which occurred in the sixteenth and seventeenth centuries was engendered by the rupture of this link between self and cosmos. In the explorations of Copernicus, Kepler, and Galileo, the distinctions between self and world, between knower and known, began to sharpen. The medieval assumption of an unquestioned equivalence between one's senses and reality was being undercut by a technology which extended and often contradicted one's limited senses. Scientific experiments and their accompanying technology probed reality in ways the human senses could not and even negated sensory perception. In the face of such scientific and technological knowledge the reliance upon the direct and trustworthy relationship between one's senses and reality was being called into question. While a participating consciousness drew upon sense experience and commonsense as the primary avenues of knowledge, Galileo and other theorists of this era promulgated knowledge which often violated sense and commonsense truth.

Further, while a participating consciousness engendered and nourished a world view of enchantment, a sense of being intimately involved with sensory phenomena, scientific knowing shaped a world view of disenchantment.⁹ The enchantment which characterized the medieval epistemology always embodied a

nonmaterial principle, for the presence of the mind in knowing ensured that perceived objects were not just objects, but were "participated-in" objects.¹⁰ The disenchantment of scientific epistemology canceled the presence of such a nonmaterial principle in knowing. For true knowledge could only be ensured by a rigid distinction between the observer and the observed, the knower and the object, and by the discernment of "non-participated" objects.¹¹ Thus, disenchantment with its commensurate detachment and object-ifying of sensory phenomena marked a radical shift from the medieval epistemological understanding of self-world relations.¹² Susan Bordo summarizes this decisive shift in the emerging self understanding of this era by highlighting its comprehensive rupturing of what had previously been a cohesive world view.

The scientific and philosophic revolutions of the seventeenth century reconstructed the world for a culture badly in need of new imagery and new myths. The years 1400-1600, regarded by Ortega as "the greatest crisis through which the European destiny has ever passed," had left the intellectual culture "without solid ground on which to stand ... swinging loose on its hinges." No longer was there one true church. Nor could there be a claim to one true culture -- sensationally increased levels of exploration and commerce with other cultures had radically upset the eurocentrism that prevailed throughout the medieval era. No longer, after the telescope, could the most intimate and ubiquitous mode of human access to the world -- the naked senses -- be trusted. And, perhaps most disorienting, "infinity had opened its jaws" (as Arthur Koestler puts it) with Copernicus's denial of the rotation of the heavens around the earth; the snug, finite universe of the medieval imagination had been burst asunder. Where there had formerly been "a place for everything and everything in its

right place," (Lewis) now even the sun and earth were homeless and lost, as in Donne's famous poem.¹³

Descartes was a part of this era in which the medieval participating consciousness was being burst asunder. Indeed, his work conspicuously manifests the epistemological rupture of the relation between self and world. And, although his philosophical platform must be seen as emerging from within its historical era and as a component of it, its prominence marks it as a fundamental encapsulation of the era, which has informed and shaped subsequent epistemologies up until contemporary times. In fact, Descartes's construal of the relation between self and world characterizes much of the epistemology of late twentieth century.

Characteristics of the Paradigm

Descartes's role in dismantling the organic cosmology of the medieval world is actualized in the establishment of the epistemological discontinuity between self and world. In Rules For the Direction of the Mind and the Meditations, Descartes establishes sharp boundaries between the knower and the known, boundaries which invoke new ways of knowing for the medieval seeker. This recurrent theme of discontinuity as a way of knowing pulsates through Descartes's enterprise. Its rupturing character can be seen in the five major characteristics which shape his epistemological paradigm, the characteristics of suspicion of senses, doubt, certainty, mathematics, and fundamental dualisms. More specifically, the

method of establishing discontinuity pulsates in Descartes's use of suspicion and doubt. It resonates within his idolization of certainty. It underlies his equivalence of knowledge with mathematics. And it coalesces in his epistemological hallmarks of dualisms. To understand the Cartesian epistemological mission, one needs to discern how these five characteristics function for Descartes as he sets out to break the organic unity of self and world.

As the medieval cosmology and metaphysics was being burst asunder, Descartes faced the ensuing "epistemological abyss"¹⁴ with a determination to assert how certainty of knowledge can be obtained. For Descartes the abyss confronted the human knower with a choice between two possibilities: absolute certainty or epistemological chaos -- purity or corruption.¹⁵ In a flight from any possibility of error, Descartes held out certainty as the ground for all knowing.

Only those objects should engage our attention, to the sure and indubitable knowledge of which our mental powers seem to be adequate....

Thus in accordance with the above maxim we reject all such merely probable knowledge and make it a rule to trust only what is completely known and incapable of being doubted.¹⁶ (emphasis added)

The epistemological quest for certainty is integrally linked by Descartes with suspicion of the senses. In contrast to other epistemological paradigms in which certainty and knowing through the senses are held in tandem, Descartes refutes the validity of their linkage. Instead, he argues for

separation of the two epistemological concepts, asserting that certainty can only be established through a fundamental suspicion of the senses. In the context of the sixteenth and seventeenth centuries, Descartes and others find that the senses can no longer be trusted to place knowers in a veridical relationship with their world. In a world being burst asunder, the medieval world's grounding in the reliability of the senses is being shaken to its core by scientific discoveries. In the words of Galileo's famous appraisal of Copernicus's discoveries, the discoveries of this era "[committed] a rape upon the senses."¹⁷ Within such an epistemological world view, certainty and sensory knowing become contradictory.

Descartes furthers this dismantling of the role of the senses in linking the knower and the known by sounding the chord of deception. The senses deceive the knower.¹⁸ Their deception occurs through their fluctuation, their propensity toward obscurity and confusion, and their inaccurate presentation of the external world, all of which negates their veracity.¹⁹ In Meditation VI, Descartes explicates his personal move from naive trust in the senses to the epistemological ground of suspicion of the senses. After identifying several instances of knowledge he had gained by his senses, he calls their veracity into question:

But afterwards many experiences little by little destroyed all the faith which I had rested in my senses; for I from time to time observed that those towers which from afar appeared to me to be round,

more closely observed seemed square, and that colossal statues raised on the summit of these towers, appeared as quite tiny statutes when viewed from the bottom; and so in an infinitude of other cases I found error in judgments founded on the external senses. And not only in those founded on the external senses, but even in those founded on the internal as well; for is there anything more intimate or more internal than pain? And yet I have learned from some persons whose arms or legs have been cut off, that they sometimes seemed to feel pain in the part which had been amputated, which made me think that I could not be quite certain that it was a certain member which pained me, even although I felt pain in it.... And as to the grounds on which I was formerly persuaded of the truth of sensible objects, I had not much trouble in replying to them. For since nature seemed to cause me to lean towards many things from which reason repelled me, I did not believe that I should trust much to the teachings of nature.²⁰

In a system which seeks for certainty anything which taints reality must be eschewed. For Descartes the "prejudices of the senses" make them problematic for discerning reality.²¹ In fact, the prejudicial nature of the senses nullifies their epistemological stature.

The interlocking dynamics of certainty and suspicion of the senses within Descartes's paradigm function to bring transcendence to the knower. The senses cannot produce certain knowledge because they manifest relative perception, perception which is contingent upon the knower's context. For Descartes, knowledge which changes with a changing context (e.g., the knowledge of the size of the towers which changes as one moves) cannot be trusted. Certainty functions as a posture whereby the vicissitudes of relativity and perspective are transcended.

The search for transcendence operative with Descartes's epistemology is nurtured by a strong underlying theme of personal and cultural anxiety. In her work on Descartes's Meditations, Susan Bordo unmasks the anxiety of Descartes's world view and situates it within the cultural breakdown of the medieval world view.²² The Meditations betray an anxiety to buttress the knower by a secure anchor.²³ In his very first meditation, Descartes begins by questioning how he can even distinguish between himself and a delusional "madman."

I shall then suppose, not that God who is supremely good and the fountain of truth, but some evil genius not less powerful than deceitful, has employed his whole energies in deceiving me; I shall consider that the heavens, the earth, colours, figures, sound, and all other external things are nought but the illusions and dreams of which this genius has availed himself in order to lay traps for my credulity.²⁴

Descartes continues the meditation by discounting his naive knowledge that he is not sleeping, that he is in fact "seated by the fire, attired in a dressing gown, having this paper in my hands."²⁵ Such naive knowledge must be called into question. For there are men--i.e., madmen--who could just as easily be sitting as he is and honestly believe that they are not sitting so. Madmen depend upon the naive knowledge of the senses and are deceived. Descartes's meditation pulsates with the concern to overcome this kind of deception to which madmen are vulnerable and in that overcoming to come to know for sure.

In a world where the senses, and their resident knowledge, are to be linked with madmen who deceive us, how can the knower find certain knowledge? Such a search for transcendence is often energized by anxiety. As John Dewey notes:

Whenever there is practical activity we human beings are involved as partakers in the issue. All the fear, disesteem and lack of confidence which gather about the thought of ourselves, cluster also about the thought of the actions in which we are partners. Man's [sic] distrust of himself has caused him to desire to get beyond and above himself; in pure knowledge he has thought he could attain this self-transcendence.²⁶

This linkage between anxiety and the reach for self-transcendence illumines the Cartesian epistemological quest. The dread and anxiety in a world where things are not as they seem, where madmen are waiting to trap the human knower, and where the blurry line between dreams and reality easily ushers one into illusion, portends the need for transcendence. Thus, in the seventeenth century milieu of shifting cosmology, Descartes offers transcendence of the senses as the path to certainty; indeed, certainty becomes the transcendent vista from which all epistemological madmen are to be unmasked and overcome.

The transcendence of the senses which leads the knower to certainty is to be methodologically realized through doubt.

I shall proceed by setting aside all that in which the least doubt could be supposed to exist, just as if I had discovered that it was absolutely false; and I shall ever follow in this road until I have met with something which is certain, or at least, if I can do nothing else, until I have learned for

certain that there is nothing in the world that is certain.... I am happy enough to discover one thing only which is certain and indubitable.

I suppose, then, that all the things that I see are false.... I consider that I possess no senses; I imagine that body, figure, extension, movement and place are but the fictions of my mind. What, then, can be esteemed as true? Perhaps nothing at all, unless that there is nothing in the world that is certain.²⁷

Doubt serves to establish transcendence, specifically the transcendent vista of certainty, in two ways. One, it purges the knower of the influence of the senses. This purgation of the senses will be explicated within the subsequent discussion of the mind-body dualism. However, here it must be noted that doubt serves as the instrument by which one's knowledge is stripped of its sensory contaminants. Doubt functions to call into question what the knower naively knows through the senses and thereby opens the path to epistemological certainty.

Two, doubt serves to establish transcendence by leading the knower into awareness of that which is indubitable, the self as a conscious being.²⁸ The doubter may doubt sun, moon, towers, goats, or chimeras, but the doubter cannot doubt her existence.²⁹

While we thus reject all that of which we can possibly doubt, and feign that it is false, it is easy to suppose that there is no God, nor heaven, nor bodies, and that we possess neither hands, nor feet, nor indeed any body; but we cannot in the same way conceive that we who doubt these things are not; for there is a contradiction in conceiving that what thinks does not at the same time as it thinks, exist. And hence this conclusion I think, therefore

I am is the first and most certain of all that occurs to one who philosophises in an orderly way.³⁰

The Cogito anchors the knower in doubt, for in doubt the knower knows herself to exist. And it is that knowledge, and only that knowledge, which is certain in a world where senses deceive and where the world is not as it seems.

When certitude is gained on that transcendent vista to which doubt has led the knower, what type of knowledge is to be claimed? For Descartes, the Cogito, "I think, therefore, I am," which emerges through the purgation of the senses and the indubitability of the doubting self, illumines true knowledge to be ideas. In Meditation III Descartes crystallizes the issue into the question: Which has more truth -- objects outside me or ideas within me? Translating the question into the more basic question of what has the most possibility for deceiving me, Descartes answers, the object outside of me. For the knower cannot be deceived by a thought; i.e. in the thought, "I think that I see a tree," the knower may or may not be seeing a tree, but the thought of seeing a tree is true. Error only occurs when the knower conceives that "the ideas which are in [one] are similar or conformable to the things which are outside of [one]."³¹ But the thought, in and of itself, can be "error-free." Thus, the purity of ideas, purged of their sensory content, constitute the knowledge of certitude.

But only certain kinds of ideas can claim certainty. The ideas which compellingly function as true knowledge are differentiated by their clarity and distinctness from ideas which, along with sensory objects, contain error. The transcendent vista of certitude cannot be obtained by ambiguity or obscurity. Only what is self-evident is consonant with truth.

And having remarked that there was nothing at all in the statement 'I think therefore I am' which assures me of having thereby made a true assertion, excepting that I see very clearly that to think it is necessary to be, I came to the conclusion that I might assume, as a general rule, that the things which we conceive very clearly and distinctly are all true.³²

But it is certain that we shall never take the false as the true if we only give our assent to things that we perceive clearly and distinctly.³³
(emphasis added)

In the equation of truth with clarity and distinctness, Descartes establishes the purity of knowledge by excluding the indeterminate, or, in Bordo's words, by "exorcising all the messier (e.g., bodily, emotional) dimensions of experience."³⁴

Clear and distinct ideas place the knower in a transcendent posture. Descartes forges transcendence as the functional nature of clear and distinct ideas by explicitly linking them with God. Clear and distinct ideas are predicated upon the role of God, specifically upon the role of God as the source of clarity and distinctness. God, as the infinite knower, knows with clarity and distinctness, and since God is "no deceiver,"³⁵ human knowledge characterized by

such clarity and distinctness signifies God's bestowing of truth.

For is there anything more manifest than that there is a God, that is to say, a Supreme Being, to whose essence alone existence pertains?... The certainty of all other things depends on [this] so absolutely, that without this knowledge it is impossible ever to know anything perfectly.³⁶

I experience in myself a certain capacity for judging which I have doubtless received from God ...; and as He could not desire to deceive me, it is clear that He has not given me a faculty that will lead me to err if I use it aright.³⁷

Descartes asserts in Meditation V that God is needed to maintain truth. This is most vividly experienced when the knower knows something clearly but later forgets why it was clearly discerned. But the certainty is not lost, for God protects the "true and certain knowledge" in the midst of "vague and vacillating opinions."³⁸ The nature of God's role in human epistemological transcendence becomes stark in the contrast between true and vague knowledge. Since God's knowledge is inherently unambiguous, humans partake of true (divine) knowledge when they extricate it from the indefinite and obscure. Buttressing his critique of sensory knowledge, which so obviously is prone to error, Descartes further posits that God, who cannot err, transcends sensory vacillations. Thus, to the degree that the human knower would also gainsay sensory knowledge and avoid vague ideas, the transcendence inhering in truth through the nature of God's own knowing may be claimed.

Clarity and distinctness characterize the ideas which constitute certain knowledge for Descartes. These axiomatic qualities function to infuse into Cartesian epistemology three significant undercurrents. One, clarity and distinctness assert sharp boundaries between self and world. These qualities engender the radical distinction between what is inside the knower and what is outside. In contrast to the operative assumptions of the medieval participating consciousness, the knowledge characterized by clarity and distinctness must be radically marked off from knowledge of objects characterized by that which is relative, by such qualities as color, shape and size. Clarity and distinctness ensure that knowledge is bounded by firm and impermeable walls, and thereby prevent the interpenetration of self and world which would blur the lines and efface the certitude.

Two, the qualities of clarity and distinctness infuse into Cartesian epistemology the undercurrent of passivity. For Descartes, the self-evident truth of ideas which emanate this clarity and distinctness is almost irresistible, for "the nature of [one's] mind is such that [one cannot] prevent" oneself from holding certain truths "so long as [one] conceives them clearly."³⁹ The mind of the knower becomes a receptacle for such clear and distinct truths, truths which are self-evident in and of themselves. Such self evidence requires only a passive mind for knowing them. Susan Bordo summarizes this Cartesian epistemological undercurrent:

The Cartesian clear and distinct perception is very like an emotion (as emotions are conceived by Descartes) in its capacity to overtake us, to absorb us, to render us passive in the face of its strength. But while the emotions may overtake us in ways that obscure our intellectual vision (that is, in the traditional picture that comes down to us from Descartes), the clear and distinct idea overtakes the propensity to error itself. Our very passivity in the face of a clear and distinct idea is the mark of its truth.⁴⁰

This inability to say no to an idea which is characterized by such clarity and distinctness is, for the Cartesian knower, a "hallmark of epistemological reassurance."⁴¹

Three, clarity and distinctness anchor knowledge into the unchanging. The epistemological undercurrent of the search for what is unchangeable takes form in the definitive qualities of truth as clear and distinct. Faced with the inherent changeability, and therefore fragility, of sensory and experiential knowledge, Descartes links the qualities of clarity and distinctness with both God and mathematics, and thereby obtains unchanging knowledge. In the extensive discussion of Meditations IV and V clarity and distinctness of ideas receive the status of immutability on the basis of this dual grounding.

Descartes argues that every clear and distinct idea cannot come from nowhere and therefore must have "God as its author."⁴² Further, ideas such as numbers, figures, and movements have truth which is so manifest that when one thinks them one has the sense that they are not new, but rather are only recollected from what one knew before. But although

ideas of numbers and figures, for example a triangle, are innate, they are not framed or invented by the knower; rather, since they "possess natures which are true and immutable," their genesis must lie elsewhere.⁴³ In Meditation V, after identifying ideas which do not partake of such self-evident truth, Descartes continues to argue for the inextricable linkage of truth and immutability.

And in consequence there is a great difference between the false suppositions such as this, and the true ideas born within me, the first and principal of which is that of God. For really I discern in many ways that this idea is not something factitious and depending solely on my thought, but that it is the image of a true and immutable nature; ... and granted, that there is one such God who now exists, I see clearly and that He must exist eternally; and finally, because I know an infinitude of other properties in God, none of which I can either diminish or change.⁴⁴

Since even the mind is subject to impermanence, as it cannot be "constantly fixed on the same object in order to perceive it clearly," and thus ideas vacillate, only God can provide, what Anthony Kenny calls, "the immutable state of the mind."⁴⁵ Through the marks of self-evident truth with their divine origin, the marks of clarity and distinctness, Cartesian epistemology reaches out for the unchangeable in a changeable world.⁴⁶

Clarity and distinctness of ideas constitute, for Descartes, certitude. That certitude is accompanied by the undercurrents of sharp boundaries between self and world, by passivity of the knower, and by the reach for the

unchangeable. The Cartesian epistemological paradigm is fundamentally characterized by this certainty, as well as by the characteristics of suspicion of senses and doubt which function methodologically to cultivate it.

A fourth characteristic of the paradigm is the equation of certain knowledge with mathematics. Descartes's "mathematization of knowledge"⁴⁷ evolves through his search for a class of ideas which can be known with such clarity that they could not be doubted by any thinking person. The superiority of arithmetic and geometry to other sciences is ratified by their objects which are "so pure and uncomplicated, that they need make no assumptions at all which experience renders uncertain."⁴⁸ Whether or not the objects actually exist, they do offer to the human knower a lucidity which can be epistemologically obtained no where else.

That is possibly why our reasoning is not unjust when we conclude from this that Physics, Astronomy, Medicine and all other sciences which have as their end the consideration of composite things, are very dubious and uncertain; but that Arithmetic, Geometry and other sciences of that kind which only treat of things that are very simple and very general, without taking great trouble to ascertain whether they are actually existent or not, contain some measure of certainty and an element of the indubitable. For whether, I am awake or asleep, two and three together always form five, and the square can never have more than four sides, and it does not seem possible that truths so clear and apparent can be suspected of any falsity (or uncertainty).⁴⁹

In a world where the senses offer dubious knowledge, in a world being burst asunder, Descartes fervently explicates, what Calvin Normore names, an "ontology of the

mathematicized."⁵⁰ In effect, Descartes equates knowledge with mathematics. In Rules VI, XII, and XIV - XXI, he illustrates in great detail the mathematical methodology of "order and disposition," of "reduction of complex to the simple," of "methodical deduction"; these become, throughout the Meditations and Philosophy, his epistemological methodology for the whole of knowledge. Indeed, mathematics becomes the "key to understanding the universe."⁵¹

The Cartesian epistemological paradigm is characterized by suspicion of senses, doubt, certainty (marked by clarity and distinctness of ideas), and mathematics. A fifth characteristic is discerned in its dualisms. The following exploration of that characteristic will focus upon three salient dualisms which permeate the paradigm: subject-object, mind-body, and reason-affect.

Subject - Object Dualism

In his attempt to establish the discontinuity between self and world (which was discussed previously), Descartes promulgates the autonomous nature of both the subject and the object in the knowing process. As separate entities, subject and object exist across clear boundaries which are to be maintained by the rational mind. Since the characteristic co-mingling of the subject and object of the medieval participating consciousness renders deceptive knowledge, the very separation of self and world, of subject and object, becomes for Descartes determinative of accurate knowledge.

The self must establish itself apart from the world. In this dis-entangling of self and world, the self becomes subjective and the world outside it becomes "de-subjectified,"⁵² or objective. Subject and object become separate epistemological categories. Underlying the Cartesian paradigm is the issue of the knower's relatedness to the world,⁵³ and the sharp differentiation between subject and object is intentionally cultivated to refashion the fragile boundaries between the medieval self and world, and thereby gain certain knowledge.

The autonomous nature of subject and object which emerges in Descartes's separation of self and world is discerned through two issues which resonate throughout his work. One issue is the nature of "object-ness"; another is the nature of "subject-ness." When subject and object are experienced dualistically the nature of one does not necessitate nor illumine the other. The Cartesian epistemological paradigm thus engenders issues of self and world which perpetuate the separation itself.

Through the separation of subject and object the nature of "object-ness" emerges as that which is other. The object, constituted by being other than the subject, exists outside of the subject. In Cartesian and scientific epistemology, establishing the otherness of the object allows the world to be known. As long as the subject remains embedded in the object, the object as other cannot be known. As that which is outside and other than subject, the object is protected

from the effects of the subject's prejudices and sensory distortions.⁵⁴ Further, that which is other does not depend upon the subject for its existence. In Descartes's severance of the subject from the object in order to eliminate the deceiving effect of senses and other subjective impurities, the object is left to exist on its own terms. Object is emptied of any nonmaterial qualities. Thus, as Emily Grosholz has noted, the Cartesian methodological rule for science becomes: "do not attribute psychological features to the objects of study, or use them for explanatory purposes. The objects of science, the machines of nature, do not have feelings or intentions."⁵⁵

As envisioned by Descartes, the nature of "object-ness" is plagued with a recurrent problem, the problem of the external world. In the dualism, subject is no longer intimately connected with object. Consequently, the object can never really be known to exist by the subject. The subject may have an idea of the object but, given the autonomy of both, the congruence of that idea with the object cannot be affirmed. Thus, Descartes asks himself, "whether any of the objects of which I have ideas within me exist outside of me."⁵⁶ Knowledge, for Descartes, is constituted by images in the mind of the subject and is confined to that subject. Upon the premise that a "false idea is an idea," irrespective of its being true or false,⁵⁷ Descartes posits that knowledge of the external world remains problematic. In his own mind

Descartes resolves this problem of the external world only when he becomes persuaded that God exists.⁵⁸

In the subject-object dualism of the Cartesian paradigm the problem of the external world ushers in the correspondence theory of reality, a theory which pervades much of contemporary epistemology. In the Cartesian separation between self and world, knowledge of the world becomes problematic. The medieval knowers, immersed in the participating consciousness of pre-seventeenth century thought, would never have asked "whether any of the objects of which they had ideas within them existed outside of them." But, as previously noted, in the Cartesian consciousness of the separation between subject and object, the subject can no longer claim to know the status of the reality of the object. No longer can the subject affirm with certainty that the external world of objects exists outside of the internal world of the subjective mind. In such separation the subject's ideas belong only to the subject and have no effect on the object. Within the Cartesian consciousness, then, knowing is necessarily plagued with the problem of ascertaining the congruence between the subject's ideas and the object's reality. Here the ground of the correspondence theory is laid. And to the degree that the separation and autonomy of subject and object are epistemologically maintained, the correspondence theory of reality has epistemological import.

The dualistic autonomy of subject and object in the Cartesian paradigm is discerned not only through the nature of object-ness, but also through the nature of subject-ness. One of the major touchstones of Descartes's work is his conceptuality of the subject in the knowing process. The prominence which Descartes gives to the I signals the centrality of subjective self consciousness within Cartesian epistemology. Historically, this Cartesian emphasis leads to a conceptual shift in the self understanding of the knower. Descartes is the first to declare ego cogito, that is, "my thinking," not reason, is the principle of philosophy.⁵⁹ The ground of the cogito is not reason per se, but the subject's reason, the subject's thinking. Descartes shifts reason from an objective position outside the thinker, where it is subject to external criteria of validity and to public confirmation of veracity, to an internal position inside the thinker, where it is subject to inner criteria of clarity and distinctness. As Hiram Caton asserts, "[i]t may be said that [Descartes] reinterprets reason as 'I think'."⁶⁰ The autobiographical posture, especially of the Discourse, the Meditations, and some of the Rules, expresses this primacy of the first person rhetoric and its concomitant epistemological claims. The whole meaning of the Enlightenment, Kant said, was the movement from the time when priests and monarchs did the thinking for a person to the time of maturity when that person did his/her own thinking. Descartes achieves this "auto-

emancipation"⁶¹ from tradition, collective wisdom, and "the old masters"⁶² by

quitt[ing] the study of letters [and] resolving to seek no other science than that which could be found in myself, or at least in the great book of the world.... For it seemed to me that I might meet with much more truth in the reasonings which each man makes on the matters that specially concern him ... than in the case of those made by a man of letters in his study touching speculations which lead to no result.⁶³

The transformation of reason into my reason constitutes this science which Descartes found "in myself."⁶⁴

The I of Cartesian epistemology bears three fundamental characteristics which define its autonomy and inform its relationship with the object of the knowing process. Subjectness is discussed by Descartes through experiences of: (1) inwardness; (2) negation of social and historical reality; and (3) objectivity. The interplay of these recurrent themes form the autonomous gestalt of the subject.

Essentially, the Cartesian epistemological subject is one whose identity exists in the mind.⁶⁵ The Meditations invite the knower to turn inward and therein to be a knower. Descartes believes that metaphysical truths lay "immanent in the intellect,"⁶⁶ and so the subject is one who blocks out the external world and cultivates the inner.

I suppose, then, that all the things that I see are false; I persuade myself that nothing has ever existed of all that my fallacious memory represents to me. I consider that I possess no senses.

. But what then am I? A thing which thinks.⁶⁷ . . .

The Cogito becomes definitive of the subject, positing an inwardness which is self legitimating. This "rise of subjectivity,"⁶⁸ undercuts any interrelationship between subject and object as it fortifies the autonomy of the subject. In its inwardness, or its "enclosedness of experience,"⁶⁹ the subject remains constitutively independent of the object.⁷⁰ While the object signifies the outer world, the subject is self defined only by the inner world of thinking. The inward life of self consciousness identifies the Cartesian subject.

A second characteristic of subject-ness in the Cartesian paradigm is its self definition by virtue of the negation of social and historical reality. Descartes presents his I in negative terms, as one, which Judovitz notes, is "emptied out" of historical and social content.⁷¹ By "stopping the senses," "denying ancient and commonly held opinions," severing "coporeal activities of walking, etc.," and disavowing "what memory says," Descartes strips his I down to its fundamental nature.⁷² As Judovitz attests, such emptying functions to herald autonomy and to engender anonymous and impersonal existence:

The subject in Descartes creates itself, its own conditions of being, but in doing so it must negate itself and "empty" itself of all social, historical, and empirical reality. This can be seen in the Discourse (Part 4) and in the Meditation (Part 3), where the subject ("cogito") is described in purely negative terms, as an entity that can exclude itself from and deny its social, historical, and physical context. Thus the truth of its existence as subject, the proposition "I think, therefore I am,"

verifies not its specific empirical content but rather its general possibility to exist, as a transcendent [sic], anonymous, and impersonal entity.⁷³

The Cartesian subject, the I who thinks and therefore is, emerges through negation, but the cost is high. A purged I lacks the historical and social content which not only links it with the world, but which also makes it specific and personal.

A third characteristic of subject-ness in the Cartesian paradigm is objectivity. Paradoxically, subjectivity ushers in objectivity. The subjectivity which inheres within Cartesian epistemology elevates the position of the subject to a "pure I."⁷⁴ Upon purging all that might deceive and distort, the subject reaps an objectivity commensurate with "angelic sight."⁷⁵ For Descartes, essential subjectivity denotes objectivity; subjectivity becomes indicative of that which is of the subject and through disciplined methodological reflection the truth which is of the subject is objective truth. It is immutable and universal. Given such a process through which the subject's truth corresponds to objective truth, the objective position of the subject underscores its autonomy.

The subject and object within the Cartesian epistemological paradigm function dualistically. The bedrock of each is an autonomous nature upon which each maintains self existence. As Descartes accents the discontinuity between

self and world, he posits a gulf between the subject and object which is fundamentally marked by the categories of inner and outer.⁷⁶ The purity of the inner depends upon the purging of the outer; the I becomes self defined without the other. The chasm between subject and object is metaphysically entrenched. The reality of each is forged without any relation to the reality of the other. Predicated upon this metaphysical ground, epistemological premises emerge. Specifically, within this dualistic subject-object metaphysics the infrastructure of the knowing process is maintained by two major pillars: detachment and non-interpretation.

Given the discontinuity between subject and object, detachment yields knowledge. In the knowing process the mind's task is to cultivate detachment, to purge sensory immediacy and passionate involvement. This act of distancing is tantamount to acquiring divine truth for it allows the subject to transcend all social and historical context which would distort pure knowledge. The vista gained by the subject in this distancing is presented to, what Richard Rorty calls, the "Mind's Eye."⁷⁷ Within a detached subject, the mind's eye serves to cross the chasm between subject and object and to make the subject a spectator. The centrality of the spectator theory of knowledge within Cartesian thought is grounded in the subject-object separation.⁷⁸ In her cogent analysis, Susan Bordo summarizes the interlocking themes of purity,

immutability, and spectatorship which constitute the Cartesian epistemological conceptuality of subject and object:

This is, of course, no new theme in the history of philosophy, which is studded with metaphors suggesting spectatorship rather than participation.... But before the 16th and 17th centuries, such conceptions had been reserved for the sort of knowing that has formal, immutable, or immaterial "reality" as its object. It is only with Descartes that fixity and purity -- "the immutable state of mind" -- began to be demanded of the knowledge necessary to certify concrete perceptions of the self (that I have hands, eyes, senses, etc.), of particular "corporeal things" (other animals, inanimate things) and, indeed, of anything external to consciousness. And it is only in the 16th and 17th centuries that earthly science, insofar as it is trustworthy, is equated with "spectatorship" and the passive reception of ideas.⁷⁹

The subject-object separation eradicates the subject's participation in experience, experience which would necessitate interaction with the object.⁸⁰ Descartes's I stands above and apart from experience and from that neutral and detached posture knows the world only through passive reception, through being a spectator.

A second pillar in the Cartesian epistemological infrastructure arising out of the subject-object dualism is non-interpretation. Non-interpretation denotes the way of seeing one's knowledge as objectively true, as pure and certain, as unproblematic. Epistemologically, non-interpretation ushers in literalness as it undercuts representation. Prior to Descartes, the medieval knower, through participating consciousness, understood objects, not

as literal entities, but as appearances or representations.

Owen Barfield explicates this conceptuality of objects:

The 'phaenomena' of which the astronomy of Greece and of the dark and middle ages spoke, were of course not quite what we today mean by 'phenomena', a word which, outside philosophy, has come to be particularly synonymous with 'objects' and 'events'. The middle voice of the Greek verb suggests neither wholly 'what is perceived from within themselves, by men' [*sic*] nor wholly 'what, from without, forces itself on man's senses', but something between the two. This is also fairly suggested by the English word 'appearances.'⁸¹

In the participating consciousness, knowledge of objects was understood as representation, a picture which was partly the mental construct of the observer. But through the Cartesian separation of subject and object, the object becomes object, that is, unparticipated-in. No longer is the object understood as that which partly embodies the knower's perception; the object is now other than the knower, an object. An unparticipated object in its fixity cannot be known through any participatory process. Consequently, when the spectator subject seeks to know it, literalism, and not interpretation, serves as the mode of understanding.

Non-interpretation, or literalism, as an epistemological tool is predicated upon the object being unparticipated, or outside of and autonomous from the subject. It is also predicated upon the autonomy of the subject, who through that autonomy can claim objectivity for his/her knowing. This nuanced but pivotal shift in the understanding of subjectivity and objectivity functioning within Descartes's work underlies

epistemological literalism. Descartes seeks to denigrate Greek science and the science of the participating consciousness. The conceptuality of that science was, as Charles Gillispie has recognized,

subjective, rational, and purely intellectual. It started inside the mind whence concepts like purpose, soul, life, and organism were projected outward to explain phenomena in the familiar terms of self-knowledge.⁸²

For that subjectivity and its projective energy which embraced the object and defined it, Descartes substitutes the subjectivity of the inner mind which contemplates clear and distinct ideas, not dependent upon any object. In explicating this Cartesian historical shift, Dalia Judovitz describes the direct contrast of this substitution to many other thinkers. When addressing the issues regarding knowledge and its relation to self, many other theorists focus upon the mediated character of the self through representation. Descartes, however, resolves the issues of knowledge and self by focusing upon mathematics.⁸³ The Cartesian subject, defined mathematically, is a self not mediated by representation. In effect, self, as well as knowledge, becomes defined by the clear and distinct ideas of the inner mind. The objectivity which is constitutive of self is gained outside of any object. Instead, it is clear and distinct ideas, characterized by the paradigmatic clarity and distinctness of mathematics, which function to bestow objectivity to the self. The neutrality of this self, this

knower, cultivates knowledge which is unrepresented and therefore, unproblematic.⁸⁴ The Cartesian subjectivity, through its unmediated and objective nature, engenders objective, literal knowledge.⁸⁵

The subject - object dualism with its concept of the nature of subject-ness and of the nature object-ness, and with its correlative epistemological pillars of detachment and non-interpretation, is fundamental in the Cartesian paradigm. The basic autonomy of subject and object posits an understanding of self and world which pervades Descartes's work and much of contemporary mentality.

Mind - Body Dualism

A second salient dualism of the Cartesian paradigm is mind-body. Descartes promulgates the distinctness and separation of mind and body. Each has its own qualities which are manifested without dependence upon the other. The mind is defined by thought; the body is defined by extension.⁸⁶ The res cognitans is a thinking something which has no spatial extension; the res extensa is a spatial something which has no psychic qualities.⁸⁷ In the differentiation of the two, Descartes makes explicit that "there is a great difference between mind and body, inasmuch as body is by nature always divisible, and the mind is entirely indivisible."⁸⁸ In explicating the nature of this dualism, the following discussion will focus upon four hinge points of its configuration: (1) definition of mind and body; (2) mind-body

separateness; (3) mind-body relationship in a compound individual; and (4) the epistemological characteristics of the dualism.

In his famous assertion, "I think, therefore I am," Descartes equates thinking and existing. The mind, which definitively is that which thinks, is where existence begins. As the center of thinking, the mind is to be differentiated from the brain, for the mind is constituted by intellectual activity and the brain by physiological activity. Descartes discerns several categories of knowledge in the knowing process, but ultimate knowledge or thought furnishes understanding, and it emerges only from the mind. In Rule XII Descartes describes the fourfold epistemological typology in the mind-body complex, and asserts that of the four, understanding, imagination, sense, and memory, understanding is indicative of the non-corporeal component.

[T]hat power by which we are properly said to know things is purely spiritual, and not less distinct from the whole body than blood from bone, or hand from eye.... It is one and the same agency which, when applying itself along with the imagination to the common sense, is said to see, touch, etc.; if applying itself to the imagination alone ..., it is said to remember; if it turn to the imagination in order to create fresh impressions, it is said to imagine or conceive; finally if it act alone it is said to understand.⁸⁹ (emphasis added)

On another occasion he makes the distinction between brain and mind even more explicit.

I have ... often distinctly showed that the mind can operate independently of the brain; for certainly the brain can be of no use to pure understanding, but only to imagination or sensing.

And although, when something strongly strikes imagination or senses (as is the case when the brain is perturbed), the mind does not easily free itself to understand other things, we nevertheless experience that when the imagination is less strong, we often understand something completely different from it: as, when while sleeping we notice that we dream, the imagination is indeed necessary for dreaming, but only the understanding is necessary to notice that we dream.⁹⁰ (emphasis added)

Descartes's differentiation between mind and brain converges in the distinctions between these categories of knowing. Pure understanding is situated in the mind and is constituted in and of itself. Imagination and sensing are situated in the brain and are dependent upon objects outside of it.

And I easily conceive that if some body exists with which my mind is conjoined and untied in such a way that it can apply itself to consider it when it pleases, it may be that by this means it can imagine corporeal objects; so that this mode of thinking differs from pure intellection only inasmuch as mind in its intellectual activity in some manner turns on itself, and considers some of the ideas which it possesses in itself; while in imagining it turns towards the body, and there beholds in it something conformable to the idea which it has either conceived of itself or perceived by the senses.⁹¹ (emphasis added)

The brain, as a constituent of the body, is not involved in pure understanding for only the mind's function of intellection yields clear and distinct ideas.⁹²

While the mind is defined by intellection, the body is defined by extension. Negating the nature of the body as qualitative, Descartes espouses its essential being as quantitative. Of the various properties of objects which are seemingly manifest to the senses, extension alone is clearly

known.⁹³ In the second part of the Principles, the "Principles of Material Things," Descartes makes explicit the essence of body:

The nature of body consists not in weight, nor in hardness, nor colour and so on, but in extension alone.

In this way we shall ascertain that the nature of matter or of body in its universal aspect, does not consist in its being hard, or heavy, or coloured, or one that affects our senses in some other way, but solely in the fact that it is a substance extended in length, breadth and depth.... [For if] weight, color, hardness and all the other qualities of the kind that is perceived in corporeal matter, may be taken from it, it remain[s] meanwhile entire: it thus follows that the nature of body depends on none of these.⁹⁴ (emphasis added)

Matter essentially becomes that which can be handled geometrically, for only on the geometric continuum does matter disclose clear and distinct ideas.⁹⁵

The second hinge point of the mind-body dualistic configuration is their separateness. Mind and body definitively exist not only in distinction, but also in separation. Descartes consistently underscores the separability of mind and body on the basis that the two can be conceived of separately.

We may thus easily have two clear and distinct notions or ideas, the one of created substance which thinks, the other of corporeal substance, provided we carefully separate all the attributes of thought from those of extension.⁹⁶

Later, he repeats his assertion:

And we can conclude that two substances are really distinct one from the other from the sole fact that

we can conceive the one clearly and distinctly without the other.⁹⁷

The motivating impulse behind Descartes's assertion of mind-body separation is immortality. Indeed, the mind-body dualism is anchored in Descartes's affirmation of immortality. The mind, which can be separated from the body, is assured by its indivisibility and indestructibility of immortality. Throughout the Meditations Descartes construes the essence of the I as that which is not subject to the ambiguities and contingencies of human living, including death itself.

And then, examining attentively that which I was, I saw that I could conceive that I had no body, and that there was no world nor place where I might be; but yet that I could not for all that conceive that I was not.... From that I knew that I was a substance the whole essence or nature of which is to think, and that for its existence there is no need of any place, nor does it depend on any material thing; so that this 'me,' that is to say, the soul by which I am what I am, is entirely distinct from body, and is even more easy to know than is the latter; and even if body were not, the soul would not cease to be what it is.⁹⁸

The autonomy of each component, mind and body, within the dualism establishes their separateness, a separateness which Descartes espouses to be evoked by the philosophical category of substance.

But now I must explain how the mere fact that I can clearly and distinctly understand one substance apart from another is enough to make me certain that one excludes the other. The answer is that the notion of a substance is just this -- that it can exist by itself, that is without the aid of any other substance.⁹⁹

The mind can exist without the body; the body can exist without the mind. Existence in immortality confirms the former; existence of animals and other mindless bodies confirms the latter.

The separateness of mind and body is predicated upon the immortality of the mind or soul. It is also predicated upon the mind as a self-contained entity. Truths, specifically geometrical truths, are unlearned and lie "latent in the mind."¹⁰⁰ Thus, pure intellect is to be cultivated outside of physical or material processes. "The natural light which makes [one] recognize what is true"¹⁰¹ (emphasis added) emanates through the mind to counteract obscure and confused images from sensible objects. In Meditation II Descartes explicates how our minds, and not our senses, teach us about wax, or about physical things. Dependent only upon a natural light, the truths innate in mind signal the essential independence of the mind from the body.

A third hinge point in the configuration of the mind-body dualism is the nature of the mind-body relationship in a compound individual. As a "compounded substance,"¹⁰² an individual manifests the interaction of these two inhering substances. But while in other schemes interacting substances may mitigate dualism, their interaction within the Cartesian individual sharpens the dualism. In other paradigms interaction between entities mitigates sharp boundaries and engenders internal exchange of identity. In the Cartesian

paradigm interaction between mind and body intensifies the boundaries between them and fortifies their separate natures. Three characteristics of the Cartesian interaction of mind and body energize that intensification: their interaction without merger; their interaction of inner and outer; and their interaction toward transcendence.

The Cartesian interaction of mind and body must be an interaction without merger. Descartes espouses the ontological duality of persons. As "psycho-physical composites,"¹⁰³ persons are composed of minds and bodies which are ontologically different substances. Consequently, the interaction cannot foster a unity of substance. Any merger of the two substances would invalidate this ontological duality. Descartes himself posits the interaction of mind and body, not as a "unity of nature," a unity of substance, but as a "unity of composition."¹⁰⁴ The unity formed by the interaction is not one of indivisibility, but rather, one of divisibility. While a unity of substance constitutes a intermingling such that the constituent parts no longer exist apart from the whole, a unity of composition constitutes a side-by-side partnership such that the parts remain whole in themselves and can be removed from the unity itself. For Descartes, the interaction within such a mind-body composition occurs as the body brings to the mind sensations and the mind contemplates them. (Of course, in this interaction the resultant knowledge is suspect, for only mental activity

divorced from physical correlates reaps pure understanding. However, Descartes affirms that sensations of the body do render some understanding.¹⁰⁵) Functioning, in a sense, alongside each other, mind and body form a composite individual, one in whom the interacting parts bring little unity.

A second characteristic of the relationship between mind and body is the interaction of inner and outer experience. As noted in the discussion of the Cartesian subject-object dualism, thinking evokes the self awareness of being a separate entity "in here" who is confronting things "out there."¹⁰⁶ Richard Rorty argues that the notion of the mind as an inner arena was born in the Cartesian era.¹⁰⁷ The inner eye elicited a new mind-body distinction from the Greek conceptuality. Aristotle equated the mind with mind-as-reason and the body with sensation and motion. Descartes, however, amplified the mind and its product of thought to embrace doubting, understanding, affirming, denying, willing, refusing, imagining, and feeling;¹⁰⁸ thought now equates consciousness.¹⁰⁹ As Wallace Matson makes explicit, the Cartesian shift to "mind-as-inner-arena" hinged upon this new understanding that thought is inclusive of all conscious states:

The Greeks did not lack a concept of mind, even of a mind separable from the body. But from Homer to Aristotle, the line between mind and body, when drawn at all, was drawn so as to put the processes of sense perception on the body side. That is one reason why the Greeks had no mind-body problem.

Another is that it is difficult, almost impossible, to translate such a sentence as "What is the relation of sensation to mind (or soul)?" into Greek. The difficulty is finding a Greek equivalent for "sensation" in the sense philosophers make it bear.... "Sensation" was introduced into philosophy precisely to make it possible to speak of a conscious state without committing oneself as to the nature or even existence of external stimuli.¹¹⁰

The mind-body dualistic relationship of inner and outer is sharpened by Descartes through, what Rorty names, this "invention of the mind."¹¹¹ As the mind now embraces in its inner arena all thoughts and all sensations, the role which is left for the body in the true perception of external objects is only the perception of quantities of extension. To accent this point, Descartes asserts that the very errors of childhood knowledge resulted from mistakenly affirming sensations to arise from the body. When one does not discern that the sensations which affect the body are in actuality in the mind, and not outside of it, one's knowledge is suspect.

The principle cause of error is found in the prejudices of childhood.

For in the first years of life the mind was so closely allied to body that it applied itself to nothing but those thoughts alone by which it was aware of the things which affected the body; ... such sensations were encountered as we call tastes, smells, sound, heat, cold, light, colours, etc., which in truth represent nothing to us outside of our mind.... The mind at the same time also perceived magnitudes, figures, movements and the like, which were exhibited to it not as sensations but as things or the modes of things existing, or at least capable of existing, outside thought.¹¹²

The inner - outer interaction of the mind-body relationship now becomes an interaction between all thoughts or

consciousness, which reside in the inner arena, and modes of extension, which reside outside in the body. The body itself becomes defined as outside, and, from outside the mind, the only non-suspect perceptions it can offer to the mind are those of extension.

A third characteristic of the relationship between mind and body is the interaction toward transcendence. Mind and body do interact within a compound individual. However, the interaction is uneven. The interaction functions to establish the mind's transcendence of the body. The transcendence is accomplished by two recurrent themes: the purgation of the senses and the equation of essence with thinking.

The body is dominated by the senses and is therefore to be suspect. The "entrapment of the senses" must be overcome in a "radical program of mental purification."¹¹³ The Meditations resonate with the "purgings of the senses."¹¹⁴

I shall now close my eyes, I shall stop my ears, I shall call away all my senses, I shall efface even from my thoughts all the images of corporeal things, or at least (for that is hardly possible) I shall esteem them as vain and false; and thus holding converse only with myself and considering my own nature, I shall try little by little to reach a better knowledge of and a more familiar acquaintanceship with myself.¹¹⁵

Thus, through meditation Descartes strives to "set aside all the prejudices of the senses and in this regard rely upon [his] understanding alone, by reflecting carefully on the ideas implanted [in the mind] by nature."¹¹⁶ This liberation from the body requires a new eye, a "fleshless eye of the

mind."¹¹⁷ In contrast to the body's eye, which mediates muddy knowledge, the mind's eye offers pure knowledge. Further, even sensory information which originates in the body now can be cleansed through its incorporation into the mind-as-consciousness. Vision now becomes a mental vision and it alone is required for understanding. Descartes stipulates: "[f]or it seems to me that it is mind alone, and not mind and body in conjunction, that is requisite to a knowledge of the truth in regard to such things."¹¹⁸ The "substantial incorporeality of thinking"¹¹⁹ within the Cartesian paradigm exists by virtue of this nearly exclusive role of the mind, purged of the senses, in the ascertaining of truth. Through such mitigation of the body's senses, the elevation of the mind is engendered.

The transcendence of the mind over the body is accomplished not only through the purgation of the senses, but also through the equation of the mind with essence. The sum res cogitans ("I am a person who thinks") functions not only to separate the mind from the body, but also to eliminate the body from the essence of the person.

This, then is the best way to discover the nature of mind and the distinction between it and the body. For, in considering what we are who suppose that all things apart from ourselves (our thought) are false, we observe very clearly that there is no extension, figure, local motion, or any such thing which may be attributed to body, which pertains to our nature, but only thought alone.¹²⁰

In the exclusion of the body from our nature, Descartes is not just alluding to the body's sensory qualities. The differentiation of brain and mind, and the mind's independence from the brain (see previous discussion), even more radically truncates the involvement of the body in the thinking process, or in our nature. The res cogitans asserts the transcendence of the mind over the body by exclusivity. The body has no place in the essence of the individual, for "I am only a thing that thinks."¹²¹

A fourth hinge point in the configuration of the Cartesian mind-body dualism is its epistemological characteristics. Epistemologically, the mind-body dualism intensifies the characteristics of detachment and literalism posited by the subject-object dualism. The following discussion will explicate some of the nuances of that intensification. In addition to these epistemological accents of the mind-body dualism, a third accent emerging from the de-valuing of the body will be explored.

As previously noted, the mind-body dualism is grounded in the transcendence provided by immortality. By virtue of the separation of mind and body, one gains immortality through the immortal transcendence of the mind over the body. This ground of transcendence shapes and pervades the whole scheme which is built upon it. As ultimate existence is contingent upon detachment from the body, so also, ultimate or pure understanding is predicated upon detachment from the body,

from its senses and its experiences. This epistemological detachment situates one within the inner arena so that the mind's eye can look out upon the embodied world and passively observe it. The mind, unencumbered by the body, from which it is essentially separate, thinks; such thinking from a detached state constitutes knowing. It is the very separability of the body from the mind that allows the mind to obtain pure understanding.

The epistemological characteristic of non-interpretation, or literalism, is also intensified by the mind-body dualism. The rigid boundary between res cogitans and res extensa is an attempt by Descartes to mitigate the errors of the medieval participating consciousness. However, in the attempt to overcome the errors which result from the blurry boundaries between self and world, the Cartesian separation of mind and body strips knowledge of all context. Body brings perspective and context to knowledge. The transcendence of the mind over the body functions as the transcendence over perspective by clear and distinct ideas garnered only in the mind. Such clear and distinct ideas become not only de-historicized,¹²² but also non-contextual. The mind-body dualism thus intensifies the non-interpretative cast of knowledge, as knowledge is rooted on the transcendent vista, no longer mediated by context, history, nor perspective.

The mind-body dualism shapes knowledge in a third way. The Cartesian epistemological paradigm essentially de-values

the body and all knowledge yielded by it. The body is inert matter which passively receives input like "wax receives an impression from a seal."¹²³ Since the data given the mind through the body is so distorted, the body itself constitutes a hindrance to thinking. The degree to which pure understanding can be cultivated is inversely correlated to the participation of the body; the less incorporation of the body in the knowledge the more that knowledge can be trusted. This de-valuing of the body in the knowing process erodes not only the veracity of sensory knowledge, but also experiential knowledge. Experiences are embodied phenomena. Through the separation of mind and body and the transcendence of the mind over the body, the Cartesian paradigm engenders knowledge which is outside of experience. Indeed, the invalidation of his experiences punctuates much of Descartes's meditations and becomes axiomatic for his conception of pure knowledge. Not only does such devaluation posit a subjectivity in which "I am not my experiences,"¹²⁴ but it makes problematic any living or experiencing, of one's knowledge. Within a split existence, true knowledge is encased within the mind; when embodied in experiences it becomes too diffused to retain veridicality.

Reason - Affect Dualism

A third salient dualism of the Cartesian paradigm is reason-affect. The distinction of reason and affect resonates throughout the mind-body dualism; however, its implicit

nuances need further explication. The individual as a "mind-suffused body"¹²⁵ manifests both reason and passions. Descartes invests considerable reflection into delimiting the nature of both. Before focusing upon the functioning of the dualism, the following discussion will briefly define each component.

Descartes construes reason as a purely cognitive process. Reason essentially links knowledge with deduction and assures understanding, or truth.

We must note then that there are two ways by which we arrive at the knowledge of facts, viz. by experience and by deduction. We must further observe that while our inferences from experience are frequently fallacious, deduction, or the pure illation of one thing from another, though it may be passed over, if it is not seen through, cannot be erroneous when performed by an understanding that is in the least degree rational.¹²⁶ (emphasis added)

Reason as deduction is defined as the step by step reduction of propositions and objects to their simplest components and "then starting with the intuitive apprehension of all those that are absolutely simple, ... ascend[ing] to the knowledge of all other by precisely similar steps."¹²⁷ Through this deductive process, reason yields clear and distinct ideas and, thereby, ensures understanding. For Descartes, such clarity by deduction can only be obtained by mathematical processes. Consequently, understanding and deductive thought converge in the interface of reason with mathematics; reason becomes integrally linked with the domain of order and measure.

Deduction with its commensurate expression of mathematical processes constitutes one centerpiece of Cartesian reason. A second centerpiece is intuition. In contrast to much of scholastic tradition, Descartes posits that it is reason, and not senses, which engenders intuition.¹²⁸

By intuition I understand, not the fluctuating testimony of the senses, nor the misleading judgment that proceeds from the blundering constructions of imagination, but the conception which an unclouded and attentive mind gives us so readily and distinctly that we are wholly freed from doubt about that which we understand. Or, what comes to the same thing, intuition is the undoubting conception of an unclouded and attentive mind, and springs from the light of reason alone.¹²⁹ (emphasis added)

In fact, intuition, now identified with "the natural light of reason," functions as a purely intellectual faculty. Descartes continues the above discussion by contrasting intuition and deduction, positing that since deduction involves other faculties, like memory and imagination, intuition illumines the primary nature of reason. Reason operates within deduction to impart the certainty gained through "inference from other facts that are known with certainty";¹³⁰ reason operates within intuition to impart the certainty of what is self-evident. Descartes's elaboration of rationality heralds a dual nature of reason wherein the epistemological centerpieces of deduction and intuition certify understanding.

Passions, or feeling, are modes of thought. Thinking constitutes the essence of the knower; feeling expresses one of its modes.

I further find in myself faculties employing modes of thinking peculiar to themselves, to wit, the faculties of imagination and feeling, without which I can easily conceive myself clearly and distinctly as a complete being; while, on the other hand, they cannot be so conceived apart from me, that is without an intelligent substance in which they reside ... from which they are distinct from me as its modes are from a thing.¹³¹

Since feelings add something to the idea of a thing they cannot unambiguously link one with one's essence; feelings can only provide hints of essence.

Overall, passions are thoughts generated by the presence of the mind in a body. In the Passions Descartes explicates the physical theory of sensations and feelings, positing their source as "the animal spirits,"¹³² the subtle air or wind which fill the nerves and thus move the muscles. Through the very detailed account of this physical theory Descartes underscores the dependence of feeling upon body.¹³³

Passions are manifested in three varieties: perceptual sensations, bodily sensations, and emotions. Perceptual sensations, such as scents, sounds, and colors, relate us to objects outside of ourselves; bodily sensations, such as hunger, thirst, and pain, relate to our body; and emotions, such as joy, anger, and sadness, relate solely to our soul (the thinking mind), and have no clear outside source.¹³⁴ This typology is predicated upon the mind's relation to extension;

each is defined by its functional role in that relation.¹³⁵ Perceptual sensations evidence that the mind can be affected or modified by properties of extension. However, the perceptions are diffused representations of the external objects. They need the clarification of reason, through which they can then be absorbed into a system of knowledge. Bodily sensations evidence that the mind is "pervasively blended through and through with a section of extension";¹³⁶ their function within a system of knowledge is primarily focused upon survival and health. Emotions, or the passions of the soul, evidence that the mind's pervading of its own body produces a single whole with "interlocked functions."¹³⁷ The complexity of the mind-body relation underlies the latter two categories; for while reason can operate upon the mixture in the former, and bring some clarity and purity to the knowledge, it is less successful in the latter two. As Descartes notes, "the close alliance between soul and body" in these perceptions "renders them confused and obscure."¹³⁸

While the category of passion within Descartes's treatise encompasses three of these varieties, the third type, in a more narrow sense, defines affect in the reason-affect dualism. Definitively, emotion is not representation; it is "caused by itself."¹³⁹ Thus, emotions are non-intellectual, outside of "clear cognition."¹⁴⁰ Emotions do not serve to engender understanding; rather, they function as motivators. Passions incite "the soul to desire" and "the body to action."

Although not essential to thought, passions provide the mind with judgments as to the benefits or harms which face it.¹⁴¹ In focusing the mind upon one idea rather than another, emotions do influence the mind in its work of understanding. However, in the Cartesian paradigm passions participate in thought by directing it, as an outside influence, and not by constituting it. The work of passion is to motivate the soul toward actions of the body.

Descartes believes that in the passions he has found an indication of the unity of the mind, or more specifically the unity of mind and body. Thought manifests both reason and passion, drawn from mind and body. In the passions "there is a connection between our soul and our body such that when we have once joined some corporeal action with some thought, the one of the two never after presents itself to us without the other."¹⁴² However, while Descartes upholds this vision of unity, on the one hand, it is mitigated, on the other hand, by the dualistic relation of reason and passion which he promulgates. That dualism is effected within the Cartesian paradigm by two foci: (1) the nature of the connection between soul and body which is portrayed in the passions; and (2) the autonomy of reason and passion, and the concomitant assertion of the superiority of reason, which underlies the whole paradigm.

The passions do disclose a connection between mind and body. However, the connection is essentially mechanistic.

The animal spirits link the body and soul in such a way that their conjoining never becomes interpenetration. Rather, both remain distinct and separate entities in which a change in one may cause a change in the other through the "movements of the blood and the spirits." This causal relationship does not induce unity between mind and body. The role of the "animal spirits" in bringing passions to bear upon mind intensifies the dualism of reason and affect as it highlights the need for an third entity to bring the two into relationship. It is a relationship of linkage, not unity.

A second focus through which the dualism of reason and affect is fostered is the separability of each component. Passion exists outside of reason; reason exists outside of passion. Definitively, passion "proceeds from no function of the understanding."¹⁴³ Illuminative of the autonomy of passions, more specifically of bodily sensations, is the analogy of "animals [who] devoid of reason direct their lives simply by bodily movements similar to those which in our case usually follow these passions" (emphasis added).¹⁴⁴ Passion requires no presence of reason to manifest itself within and through the body. Indeed, the very absence of reason in passion signals its inability to bring understanding, and marks its irrelevance in knowing.

Upon the axle of reason, the Cartesian paradigm legitimates a science based in both rationalism and empiricism. The confidence in reason's ability to present

what is good and true which shapes rationalism and empiricism is anchored in Descartes's idolization of reason. That idolization emanates from two characteristics of reason: its autonomy and its superiority. Positing reason as the autonomous norm for truth, Descartes asserts that "nothing can be added to the pure light of reason which does not in some way obscure it" (emphasis added).¹⁴⁵ The separation of reason from passion ensures its clarity and distinctness. Thus, from within the knower and insulated from that which is outside, reason manifests an unclouded and attentive intellect. Its independence from passion engenders its veracity. As Maxine Grene has noted, the Cartesian intuition

is self-guaranteeing because it is responsible, independent, an act of complete attention, resting self-sufficiently within the firm bounds of its own bright light: seeing clearly all that it sees and wanting nothing more.¹⁴⁶

From the immutability of reason emerges a science predicated upon the self validating and transparent nature of mathematics.

It is almost in the same sense that I have the habit of distinguishing two things in mathematics: history and science. I understand history to be all that has been discovered and is found in books. But by science, I mean the ability to resolve all questions and discover by one's own means everything that the human mind can find in science: and the one who possesses science does not expect much of others and because of that fact, can be properly called self sufficient.¹⁴⁷

Through the natural and autonomous light of reason, the knower becomes self-sufficient. Such is the nature of a science determined by and grounded in reason.

The idolization of reason by Descartes is amplified through his treatise on the elevation of reason over passion. The Cartesian ratiocination posits that humans can know all there is to know by way of reason. Thus, Descartes begins his *Meditations* on the day when he has "delivered [his] mind from every care and [is] happily agitated by no passion."¹⁴⁸ The properly trained mind can overcome passions through reason, and in certain acts can actually "think without the body."¹⁴⁹ The chord of the superiority of reason in the reason-affect dualism is effected through three notes: (1) reason as the judge of errors; (2) reason as the bridge from self to world; and (3) reason as metaphysical mathematics.

Descartes places error in the will. By so doing he posits the purity of the intellect.¹⁵⁰

Whence then come my errors? They come from the sole fact that since the will is much wider in its range and compass than the understanding, I do not restrain it within the same bounds, but extend it also to things which I do not understand; and as the will is of itself indifferent to these, it easily falls into error and sin, and chooses the evil for the good, or the false for the true.¹⁵¹

In another passage, he simply says, "[our errors] do not depend so much on our intellect as on our will."¹⁵² Since passions inherently serve to motivate the body to action, passions are integrally interwoven with the will. Thus, the

errors of the passions underlie the errors expressed through the will. Reason, from its transcendent position outside those errors, can function to judge and correct them. Its own self-guaranteeing veridicality certifies its oversight of and judgment upon thoughts derived from passion and will.

The chord of reason's superiority over affect is also effected through the note of reason as the bridge from self to world. This note is discordant to the tone of the medieval participating consciousness. Within the medieval participating consciousness the knower experienced the link between self and world as an embodied linkage. Consequently, sensory perceptions and passions had a vital role in the linkage. Descartes, however, shifts the primary ground of self-world relations from this sensory and affective linkage to an intellectual linkage. In the movement from mind to the world, the Cartesian bridge offered for the knower is fundamentally intellectual intuition.¹⁵³ Even knowledge of our bodies within the self occurs via the intellect.

[S]ince it is now manifest to me that even bodies are not properly speaking known by the senses or by the faculty of imagination, but by the understanding only, and since they are not known from the fact that they are seen or touched, but only because they are understood, I see clearly that there is nothing which is easier for me to know than my mind.¹⁵⁴
(emphasis added)

Understanding, as the property of reason, reconstitutes the relation of self and world into a non-passionate and rational knowledge.

A third note in the chord of the superiority of reason in this dualism is reason as metaphysical mathematics. As explicated previously, Descartes asserts the highest form of reason to be mathematics. In Rule IV Descartes pushes this conceptuality of reason to the formulation of universal mathematics:

But as I considered the matter carefully it gradually came to light that all those matters only were referred to Mathematics in which order and measurement are investigated, and that it makes no difference whether it be in numbers, figures, stars, sounds or any other object that the question of measurement arises. I saw consequently that there must be some general science to explain that element as a whole which gives rise to problems about order and measurement, restricted as these are to no special subject matter. This, I perceived, was called 'Universal Mathematics.'¹⁵⁵ (emphasis added)

This "meta-mathematics"¹⁵⁶ functions with no reference to particular objects; through the concepts of order and measure this form of mathematics transcends all embodied nature. Descartes here shifts away from classical mathematics, where number signifies magnitude, to a system where numbers become letters (as in algebra) and indicate logical principles within the overall axiomatic system.¹⁵⁷ Truth grounded in such reason, in such metaphysical mathematics, escapes any representational character. It represents no particular object, for it represents no object. Transcending any representational function, which might compromise it or call into question its accuracy in representing reality, reason is able to realize pure and immutable truth.

Implications for Knowing

Throughout this explication of the Cartesian paradigm and its primary characteristics of suspicion of senses, doubt, certainty, mathematics, and the three dualisms of subject-object, mind-body, and reason-affect, epistemological implications have been noted as they inhere within each particular characteristic. However, the epistemological premises of the whole paradigm sharpen the understanding of what kind of knowing is being prescribed here. The following discussion briefly summarizes the epistemological character of the paradigm as a whole.

The ways we attempt to know and understand reality intimately shape our relationship with the world. As Douglas Sloan has observed:

[O]ur ways of knowing directly affect the way we relate to the world and, hence, the kind of world we create for ourselves through our institutions, our technologies, and our conceptions of reality. The world we apprehend and live in is structured by our consciousness.¹⁵⁸

Much of the modern world, its institutions, its technologies, and its conceptions of reality have been shaped by the Cartesian consciousness and ways of knowing. Seven threads weave the fabric of that epistemological consciousness: quantity, absolutes, separation, naturalness, split between fact and value, mechanism, and mastery or control.

Quantity

Descartes firmly entrenches the nature of body into extension; objects are essentially that which can be measured. The genesis of this ideology of measurement is grounded in the criterion of knowledge. Knowledge is consonant only with that which is clear and distinct. That is its single criterion. Consequently, the progress of knowledge coalesces with the growing number of clear and distinct ideas. Growth in quantity measures the evolving knowledge both of particular objects and of human understanding of the world. This reductionistic epistemology of quantity, rooted in Descartes's equation of reasonable with mathematical, invalidates all other ways of knowing and forms of knowledge. The critique of Douglas Sloan is penetrating:

The dominant modern view of how we know, of what we can know, and therefore, of what life and the world and their potentialities hold for us has been shaped by the positivist assertion ... that knowledge is acquired only through "the positive data of science" which has meant, in effect, only through that which can be counted, measured, and weighed. The central positivist claim is that science provides our only way of knowing and our only source of genuine knowledge. This claim has corollaries, namely, (1) that all problems are scientific and technological problems, including human problems, which are to be cast exclusively in scientific and technological terms and dealt with accordingly; and (2) that quantitative science provides an adequate, all-embracing picture of the world--the so-called scientific and technological world view, a mechanistic quantitative world in which there is no place for normative values, ethics, final causes, meaning, and above all qualities and the feelings, sensations, consciousness, and intangible, inner webs of relationships in which qualities inhere. The world that thus can be known and the world that

results is one in which the only consideration is quantity--power.¹⁵⁹

The Cartesian accent of certitude underlies this concept of the quantitative nature of knowledge. Quantity renders knowledge as essentially unproblematic and more accessible to certitude. Further, the truth, defined by quantity, can be held in common, eluding all tensions of differences. In the Cartesian paradigm quantity paves the road to certitude.

Absolutes

In the Cartesian consciousness the epistemological thread of quantity is interwoven with a second thread, the thread of absolutes. Descartes rejects the epistemological legitimacy of the notion of "points of view."¹⁶⁰ Pure understanding, as the goal of the knowing process, is obtainable by all who would follow his method. The absolutism of this purity negates any role for perspective. As self evident and self contained, pure understanding is rendered by reason, which functions outside of particular points of view. Indeed, its very liberation from all bias becomes determinative of its veracity. The emphasis upon absolutes within the Cartesian paradigm spawns two corollaries which are fundamental for its epistemology.

One, the accent upon absolutes requires the denial of the mediating character of subject, body, and passions in the knowing process. Subject, body, and passions obfuscate truth. By this pejorative view of the role of subject, body, and

passions in knowledge, Descartes effectively gainsays the work of representation in the knowing process. Knowing through representation actualizes the subjectiveness of the knower and his or her embodied and passionate presence in the world. Knowledge which is engendered by such representation is fundamentally constructive, owing its very existence to the mediation of the knower's existential nature as an embodied and passionate subject. In the stretch toward absolutes, Descartes, however, devoids such mediation. The constructive nature of knowledge is undercut by the promulgation of knowledge as indubitable.

Two, in knowing the elevation of absolutes reduces nature to the simple. Engendered by this reductionism, all knowledge of nature then becomes characterized by reductionistic thought. Charles Gillispie captures this reductionistic movement in his analysis of the interplay of nature and language:

And on reflection it seems clear (as Descartes, indeed, would wish) that the difficulty was in his idea of nature. Economy in explanation is, of course, a goal of science. But for Descartes what is simple is nature herself, whereas every neat-handed physicist knows that nature is very complex, and that only the laws of nature are simple. Cartesian thought was excessively mathematical, after all. In Galileo, in Newton, in modern physical science, mathematics is a tool, a means of expressing quantity. It is the language of science. Descartes mistook the language for the subject. "It is true," he wrote, though not as an admission, "that my physics is nothing but geometry." His thought went off into clarity and left the world behind. It was not in his character to do

otherwise. He was interested in reason, not in nature.¹⁶¹

Absolutism requires simplicity; it is sustained by clarity. Thus, there can be no self contradictions in nature; contradictions jeopardize truth. The reduction of nature to the clear and simple in order to gain certitude effectively devalues the ambiguity and paradox which inhere within nature. In the Cartesian paradigm, as Susan Bordo observes, "ambiguity and contradiction are the worst transgressions. That which cannot be categorized cleanly deserves no place in the universe."¹⁶² The epistemological transcendence achieved by absolutes is predicated upon a reductionistic metaphysics.

Separation

A third epistemological thread within the fabric of Cartesian consciousness is separation. As noted throughout this analysis, Descartes set out to establish the discontinuity between self and world. Separation of subject from object, mind from body, reason from affect, energized his meditations and philosophy. As Maxine Grene has argued, for Descartes, both "the evidence and unity of knowledge" are contingent upon such separation, so that were, for instance, "the mind not cleanly and essentially separate from the body in nature and function, the whole programme would collapse."¹⁶³ Through the "instrument of systematic doubt wielded so ruthlessly"¹⁶⁴ separation becomes the fulcrum of Descartes's

epistemology. Since continuities and interpenetrations evoke distortions, their threat must be quelled.

[The way to avoid error is] never interconnect any objects unless we are directly aware that the conjunction of the one with the other is wholly necessary.¹⁶⁵ (emphasis added)

The Cartesian passion for intellectual separation, demarcation, and order embraces that challenge.

Two epistemological implications are resident within this Cartesian accent upon separation. One, the system engenders the separation of knowledge and reality. Knowledge is rooted in and determined by intellectual intuition apart from sensory ideas, apart from any impressions gained by the senses. Knowledge results from the natural light of reason purified of any sensory content. Indeed, knowledge continually has to discern whether it does in fact have any correspondence with the external world, with reality. But, in the very act of questioning whether it has such correspondence, the self contained unit of knowledge, anchored in intellectual intuition, is kept in tact. For it is the pre-formed unit of knowledge which searches for linkage with that which is outside it, viz, reality, and whose potential linkage with it will not essentially affect it. For the Cartesian knower, reality is definitively irrelevant to knowledge. The external world of objects eludes knowledge by virtue of its inability to yield clear and distinct ideas and knowledge eludes the external world of objects by virtue of intellectual intuition.

Mixing of the two fosters ambiguity and is therefore epistemically faulty. Methodologically, separation in the Cartesian paradigm delimits the world of knowledge and the world of reality and maintains their boundaries.

Two, as noted throughout this discussion, separation constitutes the very structure of the Cartesian dualism. In the attempt to purify one part of the whole, Descartes employs separation to create a distinct part to hold, what Susan Bordo calls, "all the unwanted baggage." The structure of the Cartesian dualism is predicated upon the certification of the perfection of the subject, mind, and intellect (reason). This strategy of purification necessitates the relocation of all threatening and impure elements outside to object, body and passion.¹⁶⁶ Separation within the dualism has exclusionary functions; it serves to exclude whatever is impure from the one component and exclude whatever is pure from the other component. The structure of the Cartesian paradigm built upon separation encases and protects purity.

Naturalness

The accent upon naturalness is a primary epistemological thread in the fabric of the Cartesian consciousness. The interconnections of Cartesian psychology and philosophy converge in the emphasis upon the natural light which is immanent within the human. Thus, the character of naturalness alludes not to the natural and sensory order of the world, but rather to the innate workings of the mind. Naturalness for

Descartes denotes the fundamental nature of ideas as derivative from God and not from experience with external objects in the world. As natural, such ideas are not dependent upon unnatural sources, sources from outside the knower. The natural light of reason is not dependent upon perceptions, sensations, or emotions; its innateness within the human credits only an ultimate source, God. After positing God as the ultimate source, Descartes then uses the category of naturalness to signify that which is of the nature of the human. The concept of natural becomes interchangeable with the concept of innate and thereby inserts a decisive hue into the Cartesian consciousness. Descartes's theory of innate ideas pervades his whole system. Naturalness constitutes an ideological platform for the Cartesian overemphasis upon human intellectual and subjective knowledge. Three corollaries of this accent highlight its epistemological character.

One, the natural light engenders a strong inward character to knowledge. Descartes's stress upon the "unclouded and attentive mind" as determinative for the knowing act inculcates an introspective epistemology.¹⁶⁷ This inward thrust is not to be seen as positing an experiential ground for knowledge, for inward reflection serves to connect one with the natural light of reason, which is over-against experiences. As Charles Gillispie notes,

"The seeds of the sciences," [Descartes] writes in one of the Meditations, "are in us." Not in nature,

in us, and so he examined his own ideas to see if they met the test of truth in clarity, and not the world where there is much less clarity to be seen, whatever there may be of truth.¹⁶⁸

This priority of the natural light within us energizes a deductive, rather than an inductive, relation to experiences and objects. The origins of knowledge, anchored in inward rational reflection, are to be attended by empirical investigation and experiment, but the purpose of such empirical study is to discover which formulations, in addition to being true by reason of the natural light, are also expressions of the reality in the actual world.¹⁶⁹ Methodologically, deduction underscores the fundamental nature of knowledge as inward.

Two, the accent upon naturalness within the Cartesian paradigm spawns the corollary of individualism. Intellectual intuition is the starting point of all knowledge. Such intuition can only be had for one's self.¹⁷⁰ The radical nature of Cartesian interiority emanates from the axiomatic character of the knower's own intuition, legitimated only by its clarity and distinctness. Descartes does believe that such self evident knowledge will result in unanimity, for surely what one knows with such clarity will also be known by others. However, definitively, knowledge is constituted by intuition from within the individual and is not dependent upon such unanimity. Privatization of knowledge is incipient in the Cartesian self, in what Owen Barfield calls, the "islanded

consciousness."¹⁷¹ The self understanding of the knower as individual, who knows through his/her own natural light, is salient within Descartes's conceptuality of naturalness.

The accent upon naturalness implies a third corollary, that of the truncation of the epistemological role of the supernatural. Descartes replaces Plato's theory of eternal forms with the theory of innate ideas.¹⁷² No longer does the human find knowledge residing in the deity, but rather in oneself. God designs the laws of mathematics, implants the natural light in the human mind, and then becomes removed from the knowing process. The truncation of God's role in knowing is made more explicit through contrasting Descartes with Augustine.¹⁷³ While the epistemologies of Descartes and Augustine evidence many parallel themes, they differ in one major issue. In the Augustinian tradition understanding ultimately depends on divine grace. Descartes, however, makes the autonomy of the knower absolute, for the natural light embedded in the knower comes from a God who does not deceive. Thus, Descartes posits an independence of natural knowledge, knowledge which is not dependent upon the grace of God. Even the investigations of the external world now proceed independently of revealed doctrine, for after the implantation of the natural light, God is no longer needed in the Cartesian system. The knowing of truth now becomes innate in the human.

Split Between Fact and Value

Within the fabric of Cartesian consciousness the split between fact and value is a muted but informative epistemological thread. Descartes's equation of truth with clear and distinct ideas creates a consciousness which discerns truth as distinct from value. Truth-bearing facts are known to the exclusion of values. This severance of fact and value engenders a crisis of meaning for Cartesian knowing. The dissolution of these two epistemological categories and the resultant implications for meaning can be discerned through three lenses. In the shifting from one lens to another one finds various nuances of this tension and its crisis of meaning highlighted.

The epistemological dissolution of fact and value evolves from the Cartesian denigration of the medieval participating consciousness. Within the world view of participating consciousness, the conceptual unity and coherence of nature hold fact and value together. Unity and coherence derive from participation; and that very participation imbues meaning. In such participation fact and value are integrally interwoven and the resultant fabric surrounds the knower with meaning. The Cartesian project, however, dismantles this fabric. The Cartesian mentality ushers in, what Owen Barfield calls, the "willed ousting of participation."¹⁷⁴ The equation of facts, objective and impersonal data, with knowledge, and the establishment of

values as dubious perception, activates that project. Meaning, which requires participation and the integration of fact and value, no longer has veridical status. Thus, to see the Cartesian enterprise through the lens of its "ousting of participation" is to see its impoverishment of meaning.

A shift to a second lens through which to discern the split of fact and value brings into focus the Cartesian replacement of meaning with propositional truth. In his critique of contemporary analytical philosophies, James Doig posits that the major epistemological "Gordian knot," which has repeatedly resisted philosophers' attempts to untie it, is a Cartesian knot, specifically a knot composed of Descartes's theories about ideas.¹⁷⁵ Doig focuses upon the Cartesian heritage as it is exemplified in such contemporary theorists as Richard Rorty. Rorty, along with others, adheres to the Cartesian assumption that "thought contents are open to inspection independently of their use to make intelligible something distinct from the mental activity of thinking."¹⁷⁶ The Cartesian doctrine of the objective being of ideas, i.e. that the contents of thought are really in the mind and are veridical independently from any reality outside the mind, evidences a split between the fact of the mental thought content and what may or may not exist outside of it. In such a construction, value, which relies upon one's relationship with reality, cannot hold epistemological stature. Meaning

and values are, in many ways, mute issues; the truth of propositions is the issue to address.

A third lens highlights another nuance within the Cartesian split between fact and value and its commensurate implications for meaning. Through the lens of abstraction one discerns the Cartesian move away from the concrete. The dualisms within the Cartesian structure function to lead away from the concrete, away from the object and away from the body, inclusive of its passions. In the attempt to establish certitude, Descartes seeks to escape perspective.¹⁷⁷ Since perspective is embedded in the concrete, concrete becomes inherently suspicious. Only in abstraction can purity be found.¹⁷⁸ The complexity of the concrete is replaced by the simplicity of the abstract. Fact can only be claimed by the abstract, for the concrete never presents itself unambiguously. This move away from the concrete to the abstract, however, is also "a move to the increasingly formal and therefore empty."¹⁷⁹ Abstract ideas and mathematics, whose relationship to what actually exists is irrelevant, signal the formal and empty nature of knowledge devoid of qualities and values. The transcendence of the concrete manifested in the idolization of the abstract constitutes a move away from meaning. Meaning inherently bears perspective and emanates through qualities. The Cartesian denigration of the concrete with its complexity and nuanced perspectives and its

engendering of experience, in favor of the simple, pure, but barren abstract, fosters a "sickness in the soul."¹⁸⁰

Mechanism

Charles Gillispie has observed that it was Descartes who "systematically substituted the impersonality of the machine for the purposiveness of the organism as the model of order embracing all nature."¹⁸¹ The shift from dynamic organism to mechanistic organization constitutes the seventeenth century change of world view. Descartes's epistemological accent upon clear and distinct ideas is predicated upon the model of a universe as a vast machine, the precision watch, wound up by God to tick forever.¹⁸² This world view spawns two primary epistemological corollaries: mechanistic discreteness and atomistic methodology.

The Cartesian mechanistic reconstruction of the world promulgates a mentality of discreteness. Its emphasis is not upon the system, wherein each part is so interrelated to the others that its very identity as part depends upon its relations in the whole, but rather, upon the discrete and separate parts, each of which is defined and perceived outside relation and unity.¹⁸³ Further, in tension with the medieval participating consciousness, Descartes's espousal of mechanistic discreteness functions to mitigate participation, as it embraces the mentality of independence. Incipient within the Cartesian conceptuality of extension is the notion of the machine which goes on without human participation or

representation.¹⁸⁴ Knowledge of the discrete parts of such a self-regulating machine is determined by separation, detachment, and reductionism.

The nature of the universe as characterized by mechanistic discreteness links with the second epistemological corollary of atomistic methodology. The atomistic method is based on the idea that a thing consists of the sum of its parts, no more and no less.¹⁸⁵ Methodologically, then, subdividing furnishes knowledge. In the Cartesian paradigm this atomistic methodology informs both rational thinking and sense perception. In rational thinking truth can be ascertained through a step by step process of breaking the issue down into its component parts and serially putting them together. Reasoning is activated by a mechanical and methodical process, or what Descartes calls "long chains of reasoning." In addition to this atomistic and mechanical process of rational thinking, Descartes also develops a wholly mechanistic account of sense perception.¹⁸⁶ Predicated upon the mind-body dualism, the function of the body in sense perception is discerned to be mechanical. Contrary to the Aristotelian theory that the mind participates in sensory knowledge,¹⁸⁷ Descartes asserts that sense, in its most fundamental presence, is devoid of mind. Consequently, sense perception, in its location outside of the mind, functions mechanistically; for the body, through which sense perception occurs, is a machine. Descartes develops an explicit theory of the operation of the body's

machine in sense perception through the delineation of the mechanistic role of each part, nerves, muscles and "the animal spirits."¹⁸⁸ Thus, atomistic methodology, as commensurate with the functioning of both reason and sense perception, engenders knowledge.

Mastery and Control

A seventh prominent epistemological thread within the fabric of the Cartesian consciousness is mastery and control.

[My discoveries] have caused me to see that it is possible to attain knowledge which is very useful in life, and that, instead of that speculative philosophy which is taught in the Schools, we may find a practical philosophy by means of which, knowing the force and the action of fire, water, air, the stars, heavens, and all the other bodies that environ us, ... we can in the same way employ them in all those uses to which they are adapted, and thus render ourselves the masters and possessors of nature.¹⁸⁹ (emphasis added)

Cartesian knowing is informed by the transcendence of body and world through the mind. Such knowing of object and world is contingent upon a power over, rather than a harmony with the known. As Morris Berman has noted, in "stripping natural processes of immanent purposes" the Cartesian epistemology finds "nothing left in objects but their value for something or someone else."¹⁹⁰

Knowledge becomes the tool for the conquering of nature. Dalia Judovitz links the deductive nature of Cartesian knowing with its incipient control:

For Descartes, science does not proceed from the particular, the experiment, but rather from the universal order that anticipates it. The unknown in Descartes must always be already figured or

represented in the order of the known. Descartes's claims to objectivity are based on this absolute determinism, in which truth is merely the statement of adequation to the priorly posited proposition. Descartes's epistemology is not purely a discourse of knowledge, but also a discourse of power affirming the subject's ability to propose, create, and manipulate the conditions of possibility of the truth of things.¹⁹¹ (emphasis added)

Wielding the first principles, human investigation of the world becomes tantamount to mastery. Further, underscoring this mastery and control is an entrenched deductive determinism, so that what is outside the already determined knowledge is dubious and can be legitimated only by the inclination of one who holds the power, the first principles. Surprise has no place in this epistemology of control. Mastery of object and world, the purpose of knowing, is integrally linked with careful control over what is allowed into the cleanly and tightly bounded system.

The Need for an Alternative

Contemporary epistemology owes much of its thought to Descartes. Much of Cartesian consciousness has been absorbed into the thought stream of modernity's concept of knowing. Karl Stern uses the springboard question "What is the legacy of Descartes?" to enumerate some of the Cartesian contemporary influence:

First of all there is modern scientism. The naive and dangerous belief in an absolute manageability; the absolutism of the scientific method, with a devaluation of wisdom; the optimistic belief in the solubility of all problems, with a scotomization of the mystery; the sense of organization taking precedence over the sense of organism.... Eighteenth century enlightenment, the Goddess of

Reason, the nineteenth century absolutism of thought in Hegel ..., and our present-day positivism, the religion of progress -- none of this would be possible [without the impact of Descartes], without the Cartesian cogito.¹⁹²

The Cartesian cognitive style with its commensurate world view and existential posture engenders in the knower a particular self consciousness and relationship to the world. The problems in that self consciousness and self-world relationship make evident the need for philosophical legitimacy of alternative modes of knowing,¹⁹³ especially for faith knowing. While the Cartesian paradigm poses a very narrow and limiting perspective for knowing in general, it is especially problematic for explicating how faith is known. In addition to the epistemological limitations which have already been named, its inadequacy and, in some ways, explicit undermining of faith knowing are briefly named here as four specific problems which call for an alternative faith epistemology.

One, the equation of certitude with measurement excludes the knowing which nurtures faith. When the whole of nature can only be known through mathematical categories, faith has no role in the understanding of the natural; when the whole of knowing is equated with quantitative certitude, faith has no mode for knowing the Holy.

Two, the assertion that the blurring of boundaries is the principle cause of distorted knowledge discounts faith knowing which is anchored in the connecting force of love. For faith

knowing the epistemological tragedy cannot be the blurring of boundaries, but rather, as Susan Bordo notes, the failure of connection.¹⁹⁴ Further, the ultimate connecting metaphor, that of Incarnation, posits that knowing God is integrally linked with the embodiment of God in human flesh. Love embodies connection and connected living; indeed, it demands the blurring of boundaries. Whether it is the connection of mind and body in incarnated love or the connection of self and neighbor, of self and world, in the act of out-reach, the knowing of faith has more to do with interrelationships than with detachment and impersonal objectivity. Thus, the fundamental methodology for faith knowing is not doubt and suspicion, which separates and breaks connection, but rather openness and engagement, which establishes continuities and closeness. Fundamentally, dualisms undercut the knowing of faith.

Three, the "assignment to the shadows"¹⁹⁵ of body, emotion, sentiment, value, will, and imagination impoverishes the modes of faith knowing. Indeed, it is questionable whether what is left, reason, can connote even a primary mode of faith knowing. Faith is understood through values and passions; it is illumined through bodied engagement in the world; it is engendered through the imagination; it is nurtured and sustained through the life of the will. An epistemology of faith cannot be reduced to the "Goddess of Reason."

Four, the Cartesian epistemological shift from why to how denigrates the role of mystery and that which is outside human control in the knowing process. Morris Berman explicates this shift by noting that while Greek epistemology addresses the nonmaterial principle within the essence of all reality, and therefore the why behind its existence, Cartesian epistemology shifts the focus to how, specifically, how to act upon that reality. This accent of acting upon the world and not contemplating it constitutes a radical epistemological shift.¹⁹⁶ However, faith knowing is enveloped by the why. Faith knowing is essentially not about how the world operates (be it how it was created or how life evolves or how the body gives birth). Faith knowing is essentially about why the world operates and why the human is within it. To orient to issues of how is to face questions which the human can attempt to gain control over. To orient to issues of why is to face questions which the human can never fully answer nor ever control. To face questions of why is to face God, and ultimately mystery.

As Cartesian epistemology shifts knowing away from the why and anchors it upon the how it subverts the force of faith knowing. Thus, faith knowing, in essence, calls into question those very cognitive assumptions which adhere in Cartesian mentality. To the absolutism of human control, faith knowing posits the relevancy of human action to be linked to that which is beyond its control. To the equation of knowing with

problem solving, faith knowing connects the essence of knowing with mystery and paradox and the human response of pondering. To the identification of the goal of knowing with management, faith knowing asserts the teleology of knowing to be connection with and affirmation of the unmanageable. The depths of faith knowing call for a re-appropriation of the epistemological value of the why. Why questions anchor the knower in contemplation of relationship with the world and with what is essentially beyond, with mystery, with God.

Given the problematic nature of Cartesian epistemology for faith knowing an alternative epistemology is needed. However, any articulation of an epistemology in this contemporary era must take account of the Cartesian thought which has in so many ways become almost common sense to modern knowers. Cartesian assumptions and determinations have shaped human knowing through the last three centuries and continue to shape it in contemporary life. It is in this context of Cartesian influence that alternative epistemological thought takes its place. In the following chapters two theorists will be explored in their response to the Cartesian epistemological paradigm. Their contribution toward an alternative paradigm for faith knowing will be eagerly sought.

NOTES

Chapter 2

¹ Marjorie Grene, The Knower and the Known (1974; reprint, Washington, D.C.: Center for Advanced Research in Phenomenology and University Press of America, 1984), 64.

² Karsten Harries, "Descartes, Perspective and the Angelic Eye," Yale French Studies 49 (1973): 31.

³ Susan Bordo, "The Cartesian Masculinization of Thought," Signs: Journal of Women in Culture and Society 11 (Spring 1986): 446, 449.

⁴ Owen Barfield, Saving the Appearances: A Study in Idolatry (Middletown, Conn.: Wesleyan University Press, 1988), 78.

⁵ Owen Barfield, Saving the Appearances, 78.

⁶ Morris Berman, The Reenchantment of the World (New York: Bantam Books, 1981), 2.

⁷ Owen Barfield, Saving the Appearances, 94-95.

⁸ While this world view characterizes the epistemology of the Middle Ages, it was also the basis of the epistemology from Aristotle to Aquinas. For a discussion of the Greek experience of the ideological participation see Wallace Matson's article, "Why Isn't the Mind-Body Problem Ancient?" Mind, Matter and Method: Essays in Philosophy and Science in Honor of Herbert Feigl, eds. Paul Feyerabend and Grover Maxwell (Minneapolis: University of Minnesota Press, 1966); and Owen Barfield's chapter on "The Graeco-Roman Age" in Saving the Appearances, 96-106.

⁹ Berman, 3.

¹⁰ Berman, 3.

¹¹ Berman, 3-4.

¹² In her chapter on "Spirit and Reason at the Birth of Modern Science," Evelyn Keller names these two competing philosophies "hermetic" and "mechanical." She notes that they became two visions for the emerging new science of the seventeenth century. They often competed even within the minds of individual thinkers of this era. Keller observes: "In the hermetic tradition, material nature was suffused with the spirit; its understanding accordingly required the joint and integrated effort of heart, hand, and mind. By contrast, the mechanical philosophers sought to divorce matter from spirit, and hand and mind from heart." Evelyn Keller, Reflections on Gender and Science (New Haven: Yale University Press, 1985), 44.

¹³ Susan Bordo, The Flight to Objectivity: Essays on Cartesianism and Culture (Albany: State University of New York Press, 1987), 13-14. (In this quote Bordo refers to Jose Ortega y Gasset, Man and Crisis (New York: Norton, 1958), p. 186, and to C. S. Lewis, The Discarded Image (Cambridge: Cambridge University Press, 1964), p. 206. Bordo explores this epistemological shift within a psychocultural framework and names it as a "drama of partuition." It is a "cultural birth." Bordo's discussion illumines the gender implications of the "birth" as it signals the movement out of and away from the "mother-world" of the Middle Ages and Renaissance and the creation of another world, the modern world which is characterized by the masculine categories of detachment and separation.

¹⁴ The phrase is Bordo's. See Bordo, The Flight to Objectivity, 43. Bordo identifies the abyss to be characterized by the relativism, the perspectivism, and the problem of justifying criteria of discrimination which were inserted into the medieval world by the scientific explorations of Galileo and others.

¹⁵ Bordo, The Flight to Objectivity, 17.

¹⁶ Rene Descartes, "Rules for the Direction of the Mind," Rule II, The Philosophical Works of Descartes, vol. 1, trans. and eds. Elizabeth Haldane and G. R. T. Ross (Cambridge: Cambridge University Press, 1911), 3. All quotations from Descartes are from the Haldane and Ross translation of The Philosophical Works of Descartes unless otherwise noted.

¹⁷ Cited in Bordo, Flight to Objectivity, 34. Bordo further asserts that we should take the violence of Galileo's imagery very seriously. She argues: "in 'raping' the senses, Copernicus (and Galileo even more so) had destroyed one of the pivots upon which the epistemological security of the Middle Ages had turned.... [Confidence in the intelligible world was gained through] this esteemed place granted to

sense-experience in the pursuit and acquisition of 'this-worldly' knowledge ..." (pp. 34-35).

¹⁸ See Descartes, "Meditations," Meditation I, 157-61; and "Principles of Philosophy," Part I, Principle IV, 220.

¹⁹ See Descartes, "Rules for the Direction of the Mind," Rule III, 7; "Meditations," Meditation VI, 191; and "Principles of Philosophy," Part I, Principles LXVI-LXXI, 247-50.

²⁰ Descartes, "Meditations," Meditation VI, 189.

²¹ Descartes, "Principles of Philosophy," Part III, Principle I, 270.

²² See Bordo, Flight to Objectivity, chaps. 1 and 2.

²³ On November 10, 1619 Descartes had a series of nightmarish dreams whose images were laded with anxiety and dread. Bordo refers to these dreams and to Descartes's interpretation of them as revealing to him mathematics as the key to understanding. The account of the dreams is lost but a description of them can be found in Karl Stern, The Flight From Woman (New York: Paragon House, 1965), 80-84.

²⁴ Descartes, "Meditations," Meditation I, 148.

²⁵ Descartes, "Meditations," Meditation I, 145.

²⁶ John Dewey, The Quest For Certainty: A Study of the Relation of Knowledge and Action (New York: Minton, Balch & Co., 1929), 7.

²⁷ Descartes, "Meditations," Meditation II, 149.

²⁸ Norman MacLeish, The Nature of Religious Knowledge (Edinburgh: T & T Clark, 1938), 6.

²⁹ See Descartes, "Meditations," Meditation III, 157-65.

³⁰ Descartes, "Principles of Philosophy," Part I, Principle VII, 221.

³¹ Descartes, "Meditations," Meditation III, 160.

³² Descartes, "Discourse on the Method," 102.

³³ Descartes, "Principles of Philosophy," Part I, Principle XLIII, 236. In Principle XLV Descartes defines clear as that "which is present and apparent to the attentive mind." He continues by defining distinct as that "which is

so precise and different from all other objects that it contains within itself nothing but what is clear" (p. 237).

³⁴ Bordo, Flight to Objectivity, 4. For a broader explication of the link between purity and the criteria of clarity and distinctness see also Harries, "Descartes, Perspective and the Angelic Eye."

³⁵ In contrast to the senses which deceive, God is no deceiver. God as "no deceiver" is pervasive throughout the *Principles and Meditations*, e.g. "Principles of Philosophy," Part I, Principle XXIX, 231; "Meditations," Meditation III, 171, Meditation IV, 178, Meditation VI, 191.

³⁶ Descartes, "Meditations," Meditation V, 183.

³⁷ Descartes, "Meditations," Meditation IV, 172. See the entire meditation.

³⁸ Descartes, "Meditations," Meditation V, 183-84.

³⁹ Descartes, "Meditations," Meditation V, 180. (In this context the truths to which Descartes is referring are mathematical and geometrical truths of figures, numbers, etc.) He asserts: "For the rest, whatever proof or argument I avail myself of, we must always return to the point that it is only those things which we conceive clearly and distinctly that have the power of persuading me entirely" (p. 183).

⁴⁰ Bordo, Flight to Objectivity, 85.

⁴¹ The phrase is Bordo's. See Bordo, Flight to Objectivity, 85.

⁴² Descartes, "Meditations," Meditation IV, 178.

⁴³ Descartes, "Meditations," Meditation V, 179-80.

⁴⁴ Descartes, "Meditations," Meditation V, 182-83.

⁴⁵ Anthony Kenny, Descartes: A Study of His Philosophy (New York: Random House, 1968), 92, cited in Bordo, Flight to Objectivity, 28.

⁴⁶ See Gary Hatfield's article, "The Senses and the Fleshless Eye," for a depth explication of Descartes's rootage in Augustine and the Augustinian tradition of the hierarchy of epistemology which posits levels of knowledge from that which is changeable (body and senses) to that which is unchangeable (intellectual principle). Hatfield, "The Senses and the Fleshless Eye: The Meditations as Cognitive

Exercises," Essays On Descartes' Meditations, ed. Amelie O. Rorty (Berkeley: University of California Press, 1986), 48-52.

47 The phrase is Judovitz's. See Dalia Judovitz, "Representation and Its Limits in Descartes," Postmodernism and Continental Philosophy, eds. Hugh Silverman and Donn Welton (Albany: State University of New York Press, 1988), 69.

48 Descartes, "Rules for the Direction of the Mind," Rule II, 5.

49 Descartes, "Meditations," Meditation I, 147.

50 Calvin Normore, "Meaning and Objective Being: Descartes and His Sources," Essays on Descartes' Meditations, ed. Amelie O. Rorty (Berkeley: University of California Press, 1986), 227. Normore analyzes the process by which Descartes, in Meditation III, "gets us to reject the 'commonsense' ontology of things and their accidents in favor of an ontology in which the only real properties are 'mathematicized.'"

51 Bordo, Flight to Objectivity, 1. See also Dalia Judovitz, Subjectivity and Representation in Descartes: The Origin of Modernity (Cambridge: Cambridge University Press, 1988), 73-77, for an incisive analysis of Descartes's mathematical language which functions metaphysically. Judovitz argues that Descartes's move to the formal universal rules of mathematics as the very definition of rationality underlies his view of subjectivity as self.

52 Bordo, Flight to Objectivity, 30. Bordo explicates a suggestive analogy between this process of self-world differentiation and the psychological process of individuation. She argues that the establishment of boundaries in self-world relationship parallels the establishment of self boundaries in the developmental process of moving from the state of undifferentiated self-world union toward increasingly more discrete self and distinct external world. Thus, through the hermeneutical categories of separation and individuation, the Cartesian era and paradigm suggest the experience of a developing child.

53 See the works of Owen Barfield, Morris Berman, and Susan Bordo.

54 See Dewey, The Quest For Certainty, 23-24, for a discussion of the relationship between objects being outside the subject and the concepts of certainty and fixity.

55 Emily Grosholz, "The Three Cartesian Epistemologies," Graduate Faculty Philosophy Journal 12 (1987): 62.

⁵⁶ Descartes, "Meditations," Meditation III, 161. See also Meditation V, 179.

⁵⁷ Arthur Danto, "The Representational Character of Ideas and the Problem of the External World," Descartes: Critical and Interpretive Essays, ed. Michael Hooker (Baltimore: Johns Hopkins University Press, 1978), 288. For further discussion of the Cartesian epistemology and the problem of the external world, see MacLeish, 8-14; and James Conroy Doig, In Defense of Cognitive Realism: Cutting the Cartesian Knot (Lanham, Md.: University Press of America, 1987).

⁵⁸ See Descartes, "Meditations," Meditation III and V. Descartes's argument here is the following:

Any clear and distinct idea a subject has
of an object must be given by God.
God would not deceive.
Therefore, objects exist.

⁵⁹ Hiram Caton, The Origin of Subjectivity: An Essay on Descartes (New Haven: Yale University Press, 1973), 21.

⁶⁰ Caton, 21.

⁶¹ The phrase is Caton's. See Caton, 32, 34.

⁶² The phrase is Descartes's. See "Rules for the Direction of the Mind," Rule II, 4.

⁶³ Descartes, "Discourse on the Method," 86.

⁶⁴ Caton, 32. The phrase "in myself" is from Descartes. See the previous citation.

⁶⁵ A more comprehensive explication of the Cartesian concept of the mind will be given subsequently in the discussion of the mind-body dualism. Here, the character of inwardness as definitive of subject-ness is named as it underlies the subject-object dualism.

⁶⁶ The phrase is Hatfield's. See Hatfield, 47.

⁶⁷ Descartes, "Meditations," Meditation II, 149, 153. Also, see the entire meditation, as well as Meditation III, especially the section cited on p. 70 of this text, note 115.

⁶⁸ See Caton; and Judovitz, Subjectivity and Representation in Descartes, and "Representation and Its Limits in Descartes."

⁶⁹ The phrase is Bordo's. See Bordo, Flight to Objectivity, 73.

⁷⁰ See Judovitz, Subjectivity and Representation in Descartes, 78-82. See also Ronald Brady, "Goethe's Natural Science: Some Non-Cartesian Meditations," Toward a Man-Centered Medical Science, vol. 1, eds. Karl E. Schaefer et al. (Mt. Kisco, N.Y.: Futura Publishing, 1977).

⁷¹ Judovitz, "Representation and Its Limits in Descartes," 76.

⁷² See Descartes, "Meditations," Meditation I, II, and III.

⁷³ Judovitz, "Representation, and Its Limits in Descartes," 76-77.

⁷⁴ Harries, 38.

⁷⁵ Harries convincingly argues that the transcendental I, the "Angelic Sight," constitutes Descartes's understanding of the Cogito.

⁷⁶ See Bordo, Flight to Objectivity, for a brilliant analysis of the inner and outer categories within the Cartesian conceptuality. (See especially pp. 45-58.) In her psychocultural analysis Bordo argues that one of the fundamental dynamics of this scheme is the relocation of all threatening elements outside the subject (pp. 80-81). See also Richard Rorty's first chapter in his Philosophy and the Mirror of Nature (Princeton: Princeton University Press, 1979). Here he discusses the mind as "inner arena." The conceptuality of mind as inner space will be explored in this chapter under the mind-body dualism.

⁷⁷ Rorty, Philosophy and the Mirror of Nature, 39.

⁷⁸ John Dewey suggests that the metaphor of the "Eye of the Mind" inevitably leads to a spectator theory of knowledge. He says: "The theory of knowing is modeled after what was supposed to take place in the act of vision. The object refracts light and is seen; it makes a difference to the eye and to the person having an optical apparatus, but none to the thing seen. The real object is the object so fixed in its regal aloofness that it is a king to any beholding mind that may gaze upon it. A spectator theory of knowledge is the inevitable outcome." Dewey, The Quest for Certainty, 23.

⁷⁹ Bordo, Flight to Objectivity, 88. Bordo further argues that Descartes decisively shifts Greek understanding of perception as occurring in a space between subject and object to an understanding of perception totally occurring inside the subject. Thus, qualities previously attached to the object

now have no other existence but inside the subject (pp. 35-55).

⁸⁰ In The Reenchantment of the World Morris Berman offers a provocative analysis of the cultural and psychological ramifications of the subject-object dualism. Using the theory of R. D. Laing he discusses how disenchantment psychologically led to a divided self. Within this divided self the inner self retreats from interactions. The body/embodyed self relates to the external world through social roles, interaction rituals and elaborate game playing, while the inner self looks on like a scientific observer. See introduction to Berman, pp. 1-11.

⁸¹ Owen Barfield, Saving the Appearances, 48.

⁸² Charles Gillispie, Edge of Objectivity (Princeton: Princeton University Press, 1960), 10.

⁸³ Judovitz, Subjectivity and Representation in Descartes, 24-25.

⁸⁴ Judovitz convincingly argues that the very rhetoric of Descartes's "Meditations" functions to mask the representational nature of the subject's knowledge. The subject of the "Meditations" is "a masked organizer of the spectacle (staging). As organizer of the spectacle in which he appears, the masked subject, ego, at once participates in, but also abstracts his participation from, the spectacle in which he plays the role of actor/author/spectator.... [T]his very absence is masked, and thus figured and included in the structure of Cartesian representation." Judovitz, Subjectivity and Representation in Descartes, 37. Judovitz's critique of Cartesian representation is that by this very masking the representation act is not problematized.

⁸⁵ Of course, Descartes could unambiguously apply this conceptuality of objective truth in the subject only to mathematics. His identification of objects with their mathematical components ensured unrepresented knowledge of them, but since objects are not fully equated to mathematical schemes, he was left, as previously noted, with the haunting question of whether the remaining representations in his mind had any correspondence with objects outside his mind.

⁸⁶ See Descartes, "Principles of Philosophy," Part I, Principle LIII, 240; and "Notes Against a Programme," 435.

⁸⁷ Stern, 76.

⁸⁸ Descartes, "Meditations," Meditation VI, 196.

⁸⁹ Descartes, "Rules for the Direction of the Mind," Rule XII, 38-39.

⁹⁰ Descartes, Volume II, 212, cited in Margaret Wilson, "Cartesian Dualism," Descartes: Critical and Interpretive Essays, ed. Michael Hooker (Baltimore: Johns Hopkins University Press, 1978), 200.

⁹¹ Descartes, "Meditations," Meditation VI, 186.

⁹² See Wilson's article, "Cartesian Dualism," for a provocative analysis of Descartes's lack of cerebral basis for pure understanding. Wilson argues that even though contemporary thought would soften this strict dualism of mind and brain Descartes was fully committed to just such a "full blooded" dualism.

⁹³ Hatfield, 67.

⁹⁴ Descartes, "Principles of Philosophy," Part II, Principle IV, 255-56.

⁹⁵ Gillispie, 91.

⁹⁶ Descartes, "Principles of Philosophy," Part I, Principle LIV, 241.

⁹⁷ Descartes, "Principles of Philosophy," Part I, Principle LX, 243.

⁹⁸ Descartes, "Discourse on Method," 101. One intriguing implication of the Cartesian accent upon mind-body separability, and the essence of the mind, is the psychological anxiety spawned by having "no place." Descartes's reference here to "having no need of any place" should not be passed over lightly. See Bordo, Flight to Objectivity, especially, 70-73; Gillispie, 84; and much of Barfield's discussion throughout Saving the Appearances.

⁹⁹ Rene Descartes, "Replies to the Objections," Rene Descartes: Meditations on First Philosophy, vol. 2, trans. John Cottingham (Cambridge: Cambridge University Press, 1986), 111. Ronald Brady argues that the independence of mind and world decisively shapes modern scientific epistemology. He asserts: "Cartesianism [represents], not merely the formulation advanced by Descartes, but the lived attitude from which his formulation arises: the felt alienation of mind from extended bodies which is the very raison d'etre behind the demand that the scientific observer separate, to the limits of his [*sic*] ability, all mental elements from the observed world of material objects." Brady, 139. Brady's assertion illumines one of the ways in which Descartes's rationalism

underlies scientific empiricism. While scientific empiricism may seem to be in radical tension with Descartes's rationalism, its underlying presuppositions are Cartesian.

100 Hatfield, 63.

101 Descartes, "Meditations," Meditation III, 160. Throughout this "Meditation" Descartes refers to "the natural light" and the truth "innate within me" to explicate the distinction between knowledge coming from mind and knowledge coming from sensible objects. He links knowledge of God and knowledge of oneself as the prime incidents of the work of the natural light or of innate truth.

102 Amelie O. Rorty, "Cartesian Passions and the Union of Mind and Body," Essays on Descartes' Meditations, ed. Amelie O. Rorty, (Berkeley: University of California Press, 1986), 522.

103 The phrase is Fred Sommers's. See Sommers, "Dualism in Descartes: The Logical Ground," Descartes: Critical and Interpretive Essays, ed. Michael Hooker (Baltimore: Johns Hopkins University Press, 1978), 223. Sommers argues that the Cartesian person is a nonindividual given this duality. (An individual is here defined as ontologically nondual.)

104 The phrase is Descartes's. See Descartes, Volume II, 243, cited in Sommers, 230.

105 Wilson, 199. See also Grosholz for a discussion of the mind-body dualistic relationship and its function in rendering truth. In addition, Ruth Mattern offers an illuminative essay, "Descartes's Correspondence with Elizabeth: Concerning Both the Union and Distinction of Mind and Body," Descartes: Critical and Interpretive Essays, ed. Michael Hooker (Baltimore: Johns Hopkins University Press, 1978).

106 Berman, 23.

107 Richard Rorty, Philosophy and the Mirror of Nature, Ch. 1. Rorty entitles this chapter "The Invention of the Mind."

108 Descartes, "Meditations," Meditation II, 153. Later Descartes asserts: "By the word thought I understand all that of which we are conscious of operating in us. And that is why not only understanding, willing, imagining, but also feeling are here the same thing as thought." "Principles of Philosophy," Part I, Principle IX, 222.

- 109 Richard Rorty, Philosophy and the Mirror of Nature, 48.
- 110 Matson, 101.
- 111 Richard Rorty, Philosophy and the Mirror of Nature, 17.
- 112 Descartes, "Principles of Philosophy," Part I, Principle LXXI, 249-50.
- 113 See Bordo, Flight to Objectivity, 92 and 94. Bordo argues in the last chapter of this book that the Cartesian enterprise with its accents of mind and reason and its devaluation of body and passion constitutes a "masculinization of thought." Her provocative analysis of the re-birth into Cartesian consciousness (see note 13 of this chapter of this dissertation) deconstructs Cartesian assumptions of relationship between mind-body as well as subject-object. See also the following: Bordo, "The Cartesian Masculinization of Thought"; Carolyn Merchant, The Death of Nature: Women, Ecology and the Scientific Revolution (San Francisco: Harper & Row, 1980); Keller's chapter on "Gender and Science," Reflections on Gender and Science; and Stern, The Flight from Woman.
- 114 Hatfield, 47. Hatfield explicates the function of the literary form of the "Meditations" in this purgation of the senses. In the tradition of spiritual meditations stemming from St. Augustine, Descartes uses the meditation form to "provide the means for freeing one's attention from sensory ideas in order to attend to an independent source of knowledge: the pure deliverances of the intellect."
- 115 Descartes, "Meditations," Meditation III, 157.
- 116 Descartes, "Principles of Philosophy," Part II, Principle III, 255.
- 117 Hatfield, 51.
- 118 Descartes, "Meditations," Meditation VI, 193.
- 119 The phrase is Caton's. See Caton, 178.
- 120 Descartes, "Principles of Philosophy," Part I, Principle VIII, 221.
- 121 Descartes, "Meditations," Meditation III, 165.

¹²² Judovitz, Subjectivity and Representation, 36. For explorations of body and perspective within the Cartesian paradigm see Harries; and Bordo, Flight to Objectivity, and "The Cartesian Masculinization of Thought."

¹²³ Descartes, "Rules for the Direction of the Mind," Rule VIII, 36.

¹²⁴ Berman, 3.

¹²⁵ The phrase is Amelie O. Rorty's. See Rorty, 520.

¹²⁶ Descartes, "Rules for the Direction of the Mind," Rule II, 4-5.

¹²⁷ Descartes, "Rules for the Direction of the Mind," Rule V, 14.

¹²⁸ See Judovitz for an analysis of Cartesian intuition as polemic opposition to sensation, imagination and memory which are all linked with body. Subjectivity and Representation, 60-62.

¹²⁹ Descartes, "Rules for the Direction of the Mind," Rule III, 7.

¹³⁰ Descartes, "Rules for the Direction of the Mind," Rule III, 8.

¹³¹ Descartes, "Meditations," Meditation VI, 190.

¹³² See Descartes, "Passions," Article VII, 334, Article XI, 336.

¹³³ Susan Bordo, in another context, incisively notes that the linkage of emotions with body is arbitrary. Her critique is illuminative for the Cartesian linkage of feelings and body. She argues: "There is no necessary reason, of course, for the association of the emotions with the bodily. It is the result, rather, of the confluence of two tendencies: first, the historically embedded dualism that projects everything that speaks of powerlessness and lack of control, choice, or moderation onto 'the body,' and second, the dominant representation (criticized, for example, by Sartre) of the emotions as 'overtaking' and overwhelming, containing within themselves no elements of choice or control." Bordo, "The Cultural Overseer and the Tragic Hero," Soundings 65 (Summer 1982): 203, note 18.

¹³⁴ See Descartes, "Passions," Article XXIII, XXIV, and XXV, 342-43.

- 135 Amelie O. Rorty, 518.
- 136 Amelie O. Rorty, 518.
- 137 Amelie O. Rorty, 518.
- 138 Descartes, "Passions," Article XXVIII, 344.
- 139 Descartes, "Passions," Article XXIX, 344-45. See also Article XXV, 343.
- 140 Descartes, "Passions," Article XXVIII, 344. See also Article XCI, 372, where Descartes distinguishes between intellectual joy, which arises from understanding, and joy, which is a passion, arising from the soul alone. In Article LXIX, 362, Descartes identifies the six primary passions to be: wonder, love, hatred, desire, joy and sadness.
- 141 See Descartes, "Passions," Articles CVI and CVII, 378; and Article CXLVII, 398.
- 142 Descartes, "Passions," Article CVII, 378.
- 143 Descartes, "Passions," Article XCIV, 373.
- 144 Descartes, "Passions," Article CXXVIII, 392. See also "Discourse on Method," 116-17.
- 145 Descartes, "Rules for the Direction of the Mind," Rule IV, 10.
- 146 Grene, 68.
- 147 Descartes, "Letter to Hogelande," Feb. 8, 1640, cited in Judovitz, Subjectivity and Representation, 81.
- 148 Descartes, "Meditations," Meditation I, 144.
- 149 Wilson, 199. See also Descartes, "Meditations," Meditation VI, 193.
- 150 Bordo, Flight to Objectivity, 80-81. See her entire section on "The Purification of the Understanding" (pp. 78-82), a penetrating analysis of Descartes's treatment of the problem of error as it is comparable to Augustine's approach to the problem of evil. Bordo argues that Descartes's conception of judgment (and, therefore error) as an act of will rather than intellect evidences a radical departure from scholastic tradition and is essential to his epistemological program for three reasons: (1) doubt now is an act of will, not intellect; it is prior to any particular intellectual act;

- (2) God is now exonerated from responsibility for error; and
 (3) understanding is now purified.

¹⁵¹ Descartes, "Meditations," Meditation IV, 175-76. See also p. 178.

¹⁵² Descartes, "Principles of Philosophy," Part I, Principle XXXI, 232.

¹⁵³ Hatfield, 79, footnote 58.

¹⁵⁴ Descartes, "Meditations," Meditation II, 157.

¹⁵⁵ Descartes, "Rules for the Direction of the Mind," Rule IV, 13.

¹⁵⁶ The phrase is Judovitz's. See Judovitz, Subjectivity and Representation, 52.

¹⁵⁷ Judovitz, Subjectivity and Representation, 52.

¹⁵⁸ Douglas Sloan, "Toward an Education for a Living World," Teachers College Record 84 (Fall 1982): 2.

¹⁵⁹ Sloan, "Toward an Education for a Living World," 2.

¹⁶⁰ Peter Schouls, "Descartes and the Idea of Progress," History of Philosophy Quarterly 4 (October 1987): 424-25. Throughout this article Schouls presents a strong argument for seeing the Cartesian paradigm as upholding absolutism.

¹⁶¹ Gillispie, 93.

¹⁶² Bordo, Flight to Objectivity, 77.

¹⁶³ Grene, 79.

¹⁶⁴ Gillispie, 86.

¹⁶⁵ Descartes, "Rules for the Direction of the Mind," Rule XII, 45.

¹⁶⁶ Bordo, Flight to Objectivity, 81.

¹⁶⁷ See Hatfield, 69-70, for a more exact delineation of introspection as the methodological source of impersonal, objective judgments.

¹⁶⁸ Gillispie, 93-94.

169 Bernard Williams, introduction to Rene Descartes: Meditations on First Philosophy, vol. 2 (Cambridge: Cambridge University Press, 1986), xii-xiii.

170 Hatfield, 70.

171 See Owen Barfield, Saving the Appearances, 89.

172 Hatfield, 65.

173 Hatfield provides an illuminative analysis of the Cartesian epistemology in its parallels and tensions with the Augustinian and Aristotelian traditions. The following point of the negation of grace in Cartesian epistemology is only one of the several pivotal points of that analysis.

174 See Owen Barfield, Saving the Appearances, 157.

175 Doig, vii.

176 Doig, 13.

177 Harries, 38.

178 In Descartes's paradigm the abstract is arrived at by the "natural light of reason." It is not inductively gained by abstracting from the concrete but rather is a given, existing outside of the concrete.

179 Harries, 38.

180 The phrase is Berman's. See Berman, 3.

181 Gillispie, 85.

182 Berman, 21. Descartes, more specifically, refers to the body as machine. See, for example, "Principles of Philosophy," 195, 333, 339, 340, and 347.

183 See Brady for an identification and critique of Cartesian mechanistic discreteness.

184 Owen Barfield, Saving the Appearances, 51.

185 Berman, 21.

186 See Hatfield, 57-60, for a strong analysis of the Cartesian mechanistic theory of sense perception. Especially helpful here is Hatfield's discussion of the three states or grades of sense perception in Descartes's theory: (1) immediate effect on body organ; (2) mental result due to

organ's adherence to mind; and (3) judgments which the human makes on the data from the first two.

¹⁸⁷ Hatfield's analysis offers an insightful contrast between Aristotelian and Cartesian theories of sense perception.

¹⁸⁸ See Descartes, "Passions," especially Articles VII, XII, XIII, XVI, XXIII, XXXI, XLVI, XLVII, CVI, CVII.

¹⁸⁹ Descartes, "Discourse on Method," 119.

¹⁹⁰ Berman, 27. See also Owen Barfield, Saving the Appearances, 126-27. Barfield argues that the mind-body split results in images in the mind, and outside the body, which are now at the disposal of the mind to do with as it wishes. The more images are "detached or liberated from their originals" the more they are at the disposal of the human mind.

¹⁹¹ Judovitz, "Representation and Its Limits," 75.

¹⁹² Stern, 102.

¹⁹³ Bordo, Flight to Objectivity, 114.

¹⁹⁴ Bordo, Flight to Objectivity, 112.

¹⁹⁵ The phrase is Bordo's. See Bordo, Flight to Objectivity, 116.

¹⁹⁶ Berman, 14-15. Further on in the chapter Berman uses Galileo's scientific work to illustrate this shift from Greek to Cartesian metaphysics and epistemology. The illustration, while long, is insightful: "Galileo is popularly remembered for an experiment he never performed--dropping weights from the Leaning Tower of Pisa--but in fact he conducted a far more ingenious experiment on falling objects--an experiment that exemplifies many of the major themes of modern scientific inquiry. The belief that large or dense objects should strike the ground faster than light ones follows as a direct consequence of Aristotle's teleological physics, and was widely held throughout the Middle Ages. If things fall to the ground because they seek their 'natural place,' the earth's center, we can see why they would accelerate as they approach it. They are excited, they are coming home, and like all of us they speed up as they approach the last leg of the journey. Heavy objects drop a given distance in a shorter time than light ones because there is more matter to become excited, and then they attain a higher speed and strike the ground first. Galileo's argument, that a very large object and a very small one would make the drop in the same time interval, was based on an assumption that could neither be proven nor falsified:

that falling objects are inanimate and thus have neither goals nor purposes. In Galileo's scheme of things, there is no 'natural place' anywhere in the universe. There is but matter and motion, and we can but observe and measure it. The proper subject for the investigation of nature, in other words, is not why an object falls--there is no why--but how; in this case, how much distance in how much time.

Although Galileo's assumptions may seem obvious enough to us, we must remember how radically they violated not only the common-sense assumptions of the sixteenth century, but common-sense observations in general. If I look around, and see that I am rooted to the ground, and that objects released in midair fall to the floor, isn't it perfectly reasonable to regard 'down' as their natural, that is to say inherent, motion? In his studies of childhood cognition, Swiss psychologist Jean Piaget discovered that until about age seven at the latest, children are Aristotelians. When asked why objects fell to the floor, Piaget's subjects replied, 'Because that is where they belong' (or some variation of this idea). Perhaps most adults are emotional Aristotelians as well." (pp. 24-25)

CHAPTER 3

Alfred N. Whitehead

Alfred North Whitehead, born in 1861, was educated until the age of fourteen in his hometown of Ramsgate, Kent, England by his father, an English schoolmaster who had become an Anglican minister. Because he was considered to be a "frail boy," his family waited until 1875 to send him to Sherborne School in Dorsetshire where he received "a predominately classical education, with some time off from Latin to do extra work in mathematics."¹ The work of his adult life coalesced into three major periods which can be identified with the three settings of his life and work. In 1880 he moved to Cambridge to take a course at Trinity College and stayed on as a teacher. Thirty years later he left Cambridge for London where he was Professor of Applied Mathematics at the Imperial College of Science and Technology from 1914 to 1924. At the age of sixty-three Whitehead accepted an invitation to teach philosophy at Harvard, in Cambridge, Massachusetts. He taught there from 1924 to 1937 and became professor emeritus in 1937. Upon the completion of his formal teaching, Whitehead remained in Cambridge, Massachusetts until his death in 1947.

Within these three periods the growing corpus of Whitehead's writing evidenced a deepening and widening interest in philosophical thought. While at Cambridge, England Whitehead focused upon pure and applied mathematics, publishing his first book, A Treatise on Universal Algebra, With Applications, in 1898. The three volume Principia Mathematica, the result of a ten year collaboration effort with Bertrand Russell, appeared in the years 1910-1913. An Introduction to Mathematics was published in 1911.

During his years in London, Whitehead's focus widened to natural science. His most important contributions to the philosophy of physical science came from this period: An Enquiry Concerning the Principles of Natural Knowledge (1919), The Concept of Matter (1920), and The Principle of Relativity (1922). This triadic corpus comprised his work in "premetaphysical concepts."²

While at Harvard, Whitehead's focus explicitly turned to metaphysical issues. The metaphysical system produced during these years constituted his major philosophical works: Science and the Modern World (1925), Religion in the Making (1926), Symbolism, Its Meaning and Effect (1927), The Function of Reason (1929), Process and Reality: An Essay in Cosmology (1929), Adventures of Ideas (1933), and Modes of Thought (1938). The Aims of Education and Other Essays (1929) was a collection of his talks and essays on education during the years 1912 to 1928. As Brian Hendley notes, it was "a

remarkable output for an English mathematician who first came to America when he was nearing retirement age!"³

Whitehead's metaphysical system heralds a pivotal epistemological shift from Cartesian assumptions and premises. The following explication will briefly name his method and explore his premises. Three premises will be explored: the organic and progressive nature of reality, the nature of concrescence or the "becoming" of reality, and the nature of relationships as fundamentally internal rather than external. Following the explication of the paradigm's characteristics, the discussion will turn to an examination of the paradigm's response to the primary epistemological dualisms of subject-object, mind-body, and reason-affect.

Method

A comprehensive description and analysis of Whitehead's method cannot be given here. However, understanding the paradigm and its epistemological implications does require a brief synopsis of the method from which it arises. Two primary thrusts of that methodology are: (1) its appeal to metaphysics; and (2) its appeal to experience.

Whitehead's work, most specifically his major philosophical work, pulsates with the drive for the "apprehension of the character permanently inherent in the nature of things."⁴ Discerning the very character of the universe and its metaphysical presuppositions serves to build understanding of morals, religion, history, psychology,

culture, science (both physical and biological), and education. For Whitehead, if any concept or practice is to be appropriate "it must rest on a correct notion of reality."⁵ Metaphysics, the endeavor to "connect the behavior of things with the formal nature of things,"⁶ is a methodological process by which meaning, value, and practices can be discerned, evaluated and chosen.

The development of an adequate and comprehensive theory of reality functions for Whitehead also as an epistemological method. Knowing and its commensurate knowledge are inextricably linked with the nature of reality. Thus, to know, to establish the truth or falsehood of ideas, one depends upon metaphysical analysis.

All metaphysical theories which admit a disjunction between the component elements of individual experience on the one hand, and on the other hand the component elements of the external world, must inevitably run into difficulties over the truth and falsehood of propositions and over the ground for judgment. The former difficulty is metaphysical, the latter epistemological. But all difficulties as to the first principles are only camouflaged metaphysical difficulties. Thus also the epistemological difficulty is only solvable by an appeal to ontology.⁷

Through metaphysical analysis and reflection, epistemology is grounded in the very nature of being and becoming, the ontology of life.⁸

A second thrust of Whitehead's method is his appeal to experience, specifically, to the fundamental quality of immediate experience. The starting point of all philosophy

is experience. Within experience we are connected with reality and from it we discern philosophical principles, for reason is anchored in and bounded by "the immediate deliverances of experience."

Faith in reason is the trust that the ultimate natures of things lie together in a harmony which excludes mere arbitrariness.... This faith cannot be justified by any inductive generalisation. It springs from direct inspection of the nature of things as disclosed in our own immediate present experience. There is no parting from your own shadow. To experience this faith is to know that in being ourselves we are more than ourselves: to know that our experience, dim and fragmentary as it is, yet sounds the utmost depths of reality.⁹

Within Whitehead's metaphysics this primacy of experience for all philosophical formulations is mutually grounded in the ontological principle. (Methodologically, experience grounds the ontological principle; at the same time, the ontological principle grounds experience.) Positing that whatever can be called real, or whatever can be said about anything called real, must be grounded in an actual entity, the ontological principle elevates experience to an ontologically primary status.¹⁰ All reasons or descriptions are only to be initially found in or integrally related to actual entities, to experience. Or, to put it more succinctly, as Whitehead was reported to say in one of his Harvard classes one day, "Hang it all! Here we are. We don't go behind that; we begin with it!"¹¹

While Whitehead did not define experience as human experience, nor as conscious, the philosophical reflection

drawn from it most certainly is a human endeavor.¹² Methodologically, this human endeavor draws one into "descriptive generalizations" upon all experience, both physical and human. In contrast to the method of deduction, descriptive generalization does not begin "in the peculiar certainty, or initial clarity, of its first principals." Rather, in "the school of experience" one begins by facing the multiplicity of occasions and then undertakes the "voyage towards the larger generalities." Thus, "the accurate expression of the final generalities is the goal of discussion and not its origin."¹³ From the base of experience, Whitehead culls and brings to explicit expression the "general ideas presupposed by the facts of experience," in what he terms a "speculative philosophy."¹⁴ It is a methodological strategy which definitively shapes his whole paradigm.

Characteristics of the Paradigm

Organic and Processive Nature of Reality

With a growing realization that the inadequacy of the seventeenth century scientific world view for physics made it also problematic for metaphysics, Whitehead engaged himself, from 1925 until his death, in the dismantling of that paradigm through the construction of an alternative metaphysical world view. The axis of the doctrine of materialism, or mechanism (as he names it in Science and the Modern World), or scientific materialism (as he calls it in Process and Reality), adheres in the Cartesian doctrine of substance. The

repudiation of this doctrine of materialism underlies Whitehead's paradigm and its doctrine of organism (Science and the Modern World), or doctrine of organic realism (Process and Reality). Specifically, Whitehead dismantles the seventeenth century world view by refuting the Cartesian fundamental premise that definitively substances "required nothing but themselves in order to exist."¹⁵ In Cartesian thought, what defines a substance is its nature as self-contained. The corollaries to this definitive concept of substance which Whitehead insistently repudiates are: reality discerned as bits of matter with purely spatial, and no internal, relations; the passivity of matter; and the essential nature of substance as unchanging and thereby having only accidental qualities and relations.¹⁶ Whitehead laments that while "the state of modern thought is that every single item in this general doctrine is denied... the general conclusions from the doctrine as a whole are tenaciously retained."¹⁷ As this tenacious hold upon the self sufficiency of bits of matter fuels the exaltation of quality and quantity over relation,¹⁸ nature itself becomes accidental.

The false idea which we have to get rid of is that of nature as a mere aggregate of independent entities, each capable of isolation. According to this conception these entities, whose characters are capable of isolated definition, come together and by their accidental relations form the system of nature. This system is thus thoroughly accidental; and, even if it be subject to a mechanical fate, it is only accidentally so subject.... Also what we really observe in nature, its colours and its sounds and its touches are secondary qualities; in other words, they are not in nature at all but are

accidental products of the relations between nature and mind.¹⁹ (emphasis added)

In the doctrine of organic realism, Whitehead explicates a decisive shift from matter to organism as the fundamental nature of reality. This metaphysical shift anchors reality not in self sufficient, enduring particles, but in the flow of concreating and perishing occasions, whose substratum is energy, and its concomitant activity of "organic synthesis."²⁰

In the language of physical science, the change from materialism to 'organic realism'... is the displacement of the notion of static stuff by the notion of fluent energy. Such energy has its structure of action and flow, and is inconceivable apart from such structure.... But what has vanished from the field of ultimate scientific conceptions is the notion of vacuous material existence with passive endurance, with primary individual attributes, and with accidental adventures.²¹

This metaphysical shift from materialism to organic realism does not constitute a denial of the existence of matter. Whitehead's realism embraces matter as partaking in what is real. However, by virtue of the Fallacy of Misplaced Concreteness, matter must not be discerned as "hard, irreducible, and isolated particles," but rather "energy relations."²² Thus, the paradigmatic shift is a reversal of concrete and abstract applications viz-a-viz matter. In Cartesian and scientific materialism thought, concrete functions as a description of particles of matter, and abstract as a description of energy and other derivative qualities of such matter. But Whitehead asserts that energy constitutes the metaphysically fundamental, and therefore it

is energy that is concrete; matter emerges from energy as a "societ[y] of occasions of a given historic route," and therefore it is matter that is abstract.²³ In the paradigm of organic realism the nature of reality at its root is activity. Therefore, metaphysically it must be asserted that "nothing that exists is completely passive and inert."²⁴ The bedrock of all reality is active energy.

Correlative to the rejection of the Cartesian concept of substance is Whitehead's crystallization of both the processive nature of reality and the ontological value of organism. While the salient issues of process and organism are intertwined, the following sketch will highlight those issues by the focus first, upon process, and then, organism.

Experience manifests process, the passage from this to that, from then to now. Reflection upon immediate experience discloses the ultimacy of that passage. Taking such experiential intuition very seriously, Whitehead posits the metaphysical axiom to be: "All things flow."²⁵

Without doubt, if we are to go back to that ultimate, integral experience, unwarped by the sophistications of theory, that experience whose elucidation is the final aim of philosophy, the flux of things is one ultimate generalization around which we must weave our philosophical system.²⁶

Process, as the fundamental category of all reality, functions in a duality of presence, through the Universe and through each concrete actuality. Consequently, as John Dewey notes, each occasion exists in process, and at the same time is

process.²⁷ It is these two senses of process which constitute Whitehead's notion of the ultimacy of process, so that nothing can be understood without "its reference to process."²⁸

Discerning the nature of reality as being in process draws Whitehead into the explication of the universe as a continuous passage from one entity to another. It is the creative advance by which the past hands life over to the present to be handed over to the future; or as Whitehead says, "the oneness of the universe, and the oneness of each element in the universe, repeat themselves to the crack of doom in the creative advance from creature to creature."²⁹ Transition, as Whitehead names this form of process, occurs by the hinged activities of becoming and perishing. Ontologically, becoming and perishing actualize process as an inexorable fact in the universe. In one of his lectures on process Whitehead formulated it in this way: "Reality is becoming; it is passing before one -- a remark too obvious to make.... You can't catch a moment by the scruff of the neck--it's gone, you know."³⁰

To understand the radical critique of Cartesian substance which is embedded in Whitehead's concept of process, one must push deeper than just the notion of reality being in process. Whitehead decisively undercuts the doctrine of materialism. Each actual entity, the fundamental reality of the universe, not only is in process, it is process. Each entity is a dynamic process of "coming to be." The very activity of

constructing constitutes actual entities. In contrast to the premises of materialism, entities come to be by means of the process, the process of synthesizing data. Materialism is further undercut by Whitehead through his accent upon becoming and perishing. Becoming and perishing circumscribe the constructive activity of coming to be and unmask the essential mutability of the self. To be essentially embedded in the process of becoming and perishing is to be essentially embedded in change. Thus, in negating the ontological status of the static self upon which Cartesian substance is predicated, Whitehead recasts being as inherently constituted by process, specifically, the process of becoming.

One [metaphysical] principle is that the very essence of real actuality--that is, of the completely real--is process. Thus each actual thing is only to be understood in terms of its becoming and perishing. There is no halt in which the actuality is just its static self, accidentally played upon by qualifications derived from the shift of circumstances.³¹

Whitehead tightens the equation of process and actuality even more when he posits that for an actual entity reality belongs to its becoming, or process, and not to its completion; reality is to be attributed to an entity's concrescence and not to its satisfaction. What is primarily real is not the entity as it exists after the process of becoming. What is primarily real is the process of concrescing, the process of coming to be.

The notion of 'satisfaction' is the notion of the 'entity as concrete' abstracted from the 'process of concrescence'; it is the outcome separated from

the process, thereby losing the actuality of the atomic entity, which is both process and outcome.... ['Satisfaction'] closes up the entity.... The 'formal' reality of the actuality in question belongs to its process of concrescence and not to its 'satisfaction.' This is the sense in which the philosophy of organism interprets Plato's phrase 'and never really is.'³² (emphasis added)

What is, is process. Whether that process is discerned in the ongoing transition of the universe or in the concrescence of each actual entity, reality is constituted by process.

As previously noted, Whitehead's paradigmatic rejection of the Cartesian concept of substance evolves through two accents, process and organism. Asserting the processive nature of reality, Whitehead undercuts Cartesian and materialistic mentality. The second accent upon the ontological value of organism also functions to delegitimize scientific materialism's understanding of substance. In antithesis to scientific materialism's concept of a substance as a bit of matter, Whitehead's "organic mechanism"³³ posits "a complete organism" as the nature of a substance.³⁴ This shift to the organic concept of nature heralds being as organism-in-process. As is true of process, organism also manifests a duality of presence. In macrocosm, organism exists as a "community of actual things," as an "organism of organisms," a "nexus."³⁵ In microcosm, organism exists as an actual entity, an organic process.

To understand what it means to be requires an understanding of what it means to be organic. In the early

development of the philosophy of organism Whitehead draws upon biology for the antithetical polemic to the Cartesian concept of substance. There he finds the definitive concept of organism to be "that which functions and has extension."

In biology the concept of an organism cannot be expressed in terms of a material distribution at an instant. The essence of an organism is that it is one thing which functions and is spread through space. Now functioning takes time. Thus a biological organism is a unity with a spatio-temporal extension which is of the essence of its being.³⁶

Within the biological model organism inherently denotes a living thing, in contrast to a lifeless matter. While Whitehead's application of the concept of organism does not equate organism and life, it does intentionally draw upon the organic concept of internal and self-directed functioning.³⁷ Thus, Whitehead linguistically highlights an organism's essential nature of functioning through the use of, what Murray Code calls, "organistic terms." Terms like "experiences," and "feels," function not as a language of anthropomorphism, but of vitalism, emphasizing the functional nature of the organism, what it does, how it acts and is acted upon.³⁸

Discerning being as essentially an organism, a functioning entity, strikes a pivotal "ax chop" to the Cartesian concept of substance. However, it is the nature of an organism's internal constitution which forms the blade of that ax. In the Whiteheadian paradigm that blade is the

organic relationship of whole and part. An organism is a system in which the reciprocity of the parts and whole are constitutive. By virtue of the decisive influence of the whole upon the parts, an organism is definitively not an aggregate, a sum of parts.

The doctrine which I am maintaining is that the whole concept of materialism only applies to very abstract entities, the products of logical discernment. The concrete enduring entities of are organisms, so the plan of the whole influences the very characters of the various subordinate organisms which enter into it.... Thus an electron within a living body is different from an electron outside it, by reason of the plan of the body. The electron blindly runs either within or without the body; but it runs within the body in accordance with its character within the body; that is to say, in accordance with the general plan of the body, and this plan includes the mental state.... The molecules may blindly run in accordance with the general laws, but the molecules differ in their intrinsic characters according to the general organic plans of the situations in which they find themselves.³⁹

The whole modifies the parts and the parts modify the whole. The nature of the modification of the whole by the parts seems obvious. But it is the nature of the modification of the parts by the whole which constitutes the organic paradigm's decisive ax blow to Cartesian substance. In an organism every part is determined by the whole, specifically by the subjective aim of the whole, what it intends to be. The subjective aim, while a quality belonging to the whole, yet "evokes and pervades each part"⁴⁰ as that part comes to be. Thus, the very growth and character of the parts is guided by the "internal teleology"⁴¹ of the whole.

Definitively, within an organism no part is exclusively self determined.

On the basis of the processive nature of reality and the ontological value of organism, Whitehead's rejection of Cartesian substance becomes integrally linked with the shift to event as the primary metaphysical category.⁴² In tension with the notion of the universe as substance, the process paradigm denies that process happens to things. Rather, as Martin Jordon explains, "all that happens is that things happen. This means that the universe is made up of events or occasions -- things happening -- and nothing more."⁴³ Event is a activity, the emergence into actuality of something, the "organizing [of] a real togetherness of alien things."⁴⁴ Metaphysically, actual entities are constituted by acts of experience and not "stuff."⁴⁵ This fundamental negation of the Cartesian paradigm is fueled by the universal application of event to not only experiences but to the very nature of solidity.

We are accustomed to associate an event with a certain melodramatic quality. If a man is run over, that is an event comprised within certain spatio-temporal limits. We are not accustomed to consider the endurance of the Great Pyramid throughout any definite day as an event. But the natural fact which is the Great Pyramid throughout a day, meaning thereby all nature within it, is an event of the same character as the man's accident.⁴⁶

Further, because the final metaphysical unit of being is an event, the world cannot be discerned as a "collection of things 'simply located,'"⁴⁷ a premise which is the cornerstone

of the Cartesian view of substance. Events inherently negate the fixed boundaries of simple location. Spatio-temporal qualities do not define nor enclose an actual entity, which like all events, "does not live where its body is."⁴⁸ As functioning entity, embedded in processive reality, actuality lives beyond spatio-temporal dimensions.

[M]y theory involves the entire abandonment of the notion that simple location is the primary way in which things are involved in space-time. In a certain sense, everything is everywhere at all times. For every location involves an aspect of itself in every other location.⁴⁹

The texture of event constitutes a major negation of the Cartesian paradigm.

Explication of the processive nature of reality and the ontological value of organism becomes the doorway into the texture of event. However, Whitehead delineates the internal dynamics of actual entities in his exploration of concrescence. The constitutive nature of actuality as event, rather than substance, becomes sharply evident in the process of "coming-to-be," the concrescence of each actual entity.⁵⁰

Concrescence

Category XXVII, as paraphrased by Paul Schmidt, posits concrescence to be "the process whereby [an actual entity] achieves a harmonious unity of many feelings through a process of integration and valuation."⁵¹ Concrescence arises through an experience of multiplicity "growing together," concrescing, into unity.⁵² Thus, in contrast to substance,

growth inherently resides in the core of actuality.⁵³ Microscopically, growth mirrors the enhancement of one part by the other parts and the whole; macroscopically, growth mirrors the many becoming one and increased by one. The following explication of this process will focus upon concrescence, first through the macroscopic lens, and then through the microscopic lens.

The philosophy of organism evinces a cell-theory of actuality by which the whole universe is built up from the becoming of actual entities.⁵⁴ The becoming of each cell of the universe portrays the central metaphysical principle, "the many become one, and are increased by one." The many past actual entities grow together into a unity, which itself then becomes another actual entity within the many future becomings. In Elizabeth Kraus's incisive formulation: "the entire world finds its place in the internal constitution of the new creature, and the new creature lays an obligation upon the future.... Thus every creature both houses and pervades the world."⁵⁵

The process by which the multiplicity of the many become the unity of this new one constitutes an ever present "creative advance into novelty." As the Category of the Ultimate, Creativity, this dynamic process of many converging into a novel one, replaces the category of 'primary substance' as the metaphysical axis of the universe.⁵⁶ The gainsaying of duplication posits indeterminism as inherent within the

universe. New unity is not deducible from the old.⁵⁷ The teleological drive of creativity insures that while the one arises from a synthesis of the many, it does not conform to any form of that many. Creativity metaphysically legislates that all becoming "lives beyond" its ancestry.⁵⁸

On the one hand, concrescence is discerned macroscopically. Through the macroscopic lens, concrescence portrays this emergent synthesizing of past into novel present, a continuous process of the many becoming one. On the other hand, concrescence is discerned microscopically. Through the microscopic lens, concrescence displays an internal, and in Whitehead's words, "graded grasping together" of what is, actual entities, and what could be, eternal objects. "Grasping together" denotes the function of prehension. Prehension, this process of non cognitive appropriation, posits the very essence of actual entities to be the activity of taking account and synthesizing.⁵⁹ Within this internal taking account the actual entity is discerned as coming to be by virtue of its progressive, but non-temporal, integrating of ingredient datum.⁶⁰ Thus, metaphysically, actuality is derivative from an experience; indeed, it exists as an occasion of experience.

Internal Relations

Concrescence recasts the metaphysical nature of actuality. It does so by grounding actuality in relations, specifically in the participatory relations of datum, and by

explicating the radical ontological nature of those relations. As Whitehead notes, "the philosophy of organism is mainly devoted to the task of making clear the notion of 'being present in another entity.'"⁶¹ What does it mean to be present in or a part of another? It cannot be, as William Alston has noted, that A is in B like "a drawer is present in a desk or a fish in a fish-bowl."⁶² In the beginning stages of the philosophy of organism Whitehead focuses this issue within the concept of ingression, explicating that other entities and eternal objects participate as ingredient in the constitution of an actual entity.

An object is an ingredient in the character of some event. In fact the character of an event is nothing but the objects which are ingredient in it and the ways in which those objects make their ingression into the event.... I am using the term 'ingression' to denote the general relation of objects to events. The ingression of an object into an event is the way the character of the event shapes itself in virtue of the being of the object. Namely the event is what it is, because the object is what it is.⁶³

In the fully developed philosophy of organism the concept of internal relations explicates the nature of participatory relations or ingression.

The concept of internal relations posits relations to be ontologically primary within the essence of all actuality. In confutation of Cartesian substance, the philosophy of organism construes relations to be constitutive of substance rather than accidental to substance. An actual entity is what it is because of its relationships as those relationships

function to make other entities ingredient in its actualization. The resulting substance becomes derivative from the internal force of relationships. Through this relational force, specifically, prehension, elements in the universe are built into "the real internal constitution of [a] subject."⁶⁴ Thus, the being of one necessarily requires reference to the being of another; further, any change in the relationship to another intrinsically changes the being of the one. R. Kirby Godsey formulates this radical shift away from Cartesian substance in this way:

[In] this theory of substance as relating entity ... Whitehead's actual substance is an agent in the act of relating. There is no substantive bearer of relations. Things in existence cannot be torn apart from any item in the universe, including other actual entities, for they are constituents in the constitution of any one actual entity. We are left, therefore, with the necessity of determining what an actual entity is by examining how the world enters into it. The relating activity defines its nature. Each substance is a unique way of organizing the world.⁶⁵ (first emphasis added)

In his essential divergence from Cartesian substance and its self-contained ultimate particle, Whitehead denies the primacy of external relations. This denial delegitimizes two fundamental correlaries of the substance doctrine: (1) spatio-temporal relations are to be seen as essentially external relations; and (2) change is, therefore, derivative from relations which are external. Whitehead severs the linkage of external relations and change with a decisive accent on the metaphysics of evolutionary growth. The axis

of the many become one and are increased by one, an internal relational axis, situates evolutionary change at the heart of the universe. External relations cannot fashion such change.

[I]n truth, a thoroughgoing evolutionary philosophy is inconsistent with materialism. The aboriginal stuff, or material, from which a materialistic philosophy starts is incapable of evolution. This material is in itself the ultimate substance. Evolution, on the materialistic theory, is reduced to the role of being another word for the description of the changes of external relations between portions of matter. There is nothing to evolve, because one set of external relations is as good as any other set of external relations. There can merely be change, purposeless and unprogressive. But the whole point of the modern doctrine is the evolution of the complex organisms from antecedent states of less complex organisms. The doctrine thus cries aloud for a conception of organism as fundamental for nature.⁶⁶

Growth, or purposeful and progressive change, is predicated upon internal and not external relations.

In the doctrine of substance, spatio-temporal relations exemplify the external relations between self-contained substances. But with the fundamental nature of internal relations, the spatio-temporal dimensions of an actual entity are derived or abstracted from its relations. It is the internal relations of an entity which define "where it is and how it is"; from the event of those-relationships-coming-to-be the spatial-temporal continuum emerges.⁶⁷ In the philosophy of organism external relations are metaphysically present. But, in contrast to the doctrine of substance, they do not define actuality; they do not function through, what Dorothy Emmet calls, a "billard-ball mode of mutual

influence."⁶⁸ Rather, in the philosophy of organism external relations denote a spatial-temporal situated context. For as actual entities perish and thus become determinate they are bounded by spatio-temporal dimensions. While the relationships of concurring actual entities to these prior actual entities is internal, the relationships of the prior to the concurring is external.⁶⁹ A concurring entity has no internal affect upon prior entities. Thus, while both internal and external relations condition actuality within the philosophy of organism, the doctrine of substance is negated through the fundamental nature of internal relations and the secondary nature of external relations.

Epistemology of Perspective

The three characteristic premises of this paradigm, the organic and processive nature of reality, the nature of concurrence, and the nature of relationships as fundamentally internal rather than external, weave a decisively different epistemology than the Cartesian paradigm. Although many specific characteristics name its epistemology, and will be articulated in later chapters, the bedrock epistemological principle of perspective is so intertwined with these metaphysical premises that it functions to summarize how these premises inform epistemology.

The Cartesian epistemological anchor of certainty is radically denied in this organic paradigm. The metaphysical texture of organic actuality posits that all being, as

essentially relational, exists "relative to a standpoint."⁷⁰ The principle of "standpoint" mirrors the process by which each actual entity prehends and becomes constituted by its own actual world. By virtue of the extensive continuum, emerging out of one's unique set of constitutive relationships, each actual entity is bounded by its place in the continuum, its standpoint. Thus, all knowledge is knowledge-from-a-standpoint.⁷¹ Perspective is metaphysically inevitable.

Two epistemological corollaries are incipient within the principle of organic perspective: mediation and partiality. Within the concrescence of actual entities prehensions manifest mediation. When A prehends B, it prehends B's prehension of C, D, E, etc. Thus A's knowledge of C is mediated knowledge.⁷² One knows the actual world only through the knowledge of other entities. Epistemologically, the organic principle of mediation offers a radical critique of Cartesian certainty and its commensurate transcendence. Mediated knowledge from a standpoint means not just that "that thing there is known from here," but that, "that thing there (A) is a different thing from here (B) than it is from here (C)," for B knows A through D, and C knows A through F. Mediation negates epistemological transcendence.

The metaphysical principle of perspective also engenders the epistemological corollary of partiality. In explicit denial of the Cartesian epistemological criteria of clarity and certainty, the organic paradigm posits that all

understanding is partial given the standpoint of the knower. There are no a priori positions from which knowledge is deduced, only the embedded knower within the organic system of emerging actuality. Never can that embedded knower claim more than discernment of some of the perspectives of the known.

There are no self-sustained facts, floating in nonentity. This doctrine [denotes] the impossibility of tearing a proposition from its systematic context in the actual world.... A proposition can embody partial truth because it only demands a certain type of systematic environment, which is presupposed in its meaning. It does not refer to the universe in all its detail.⁷³

This concept of perspective within the organic paradigm, which renders knowledge inevitably partial, posits not only that one's knowing essentially takes place in a relative standpoint vis-a-vis other entities, but also that one's knowing essentially takes place in a relative standpoint vis-a-vis the ongoingness of becoming. The world, as Murray Code notes, is "thoroughly imbued with mutability" so that "cognitive activity itself seems intrinsically bound up with the mutable."⁷⁴ This ineradicable mutability inherently laces all knowledge with uncertainty.

Response to Dualisms

The fabric of Cartesian epistemological consciousness is woven with several striking threads. As noted in the previous chapter those seven threads are shades of dualistic premises. The organic paradigm weaves a distinctly alternative

epistemological fabric by the use of several threads of provocative metaphysical conceptualities. With these threads the fundamental dualisms of subject-object, mind-body, and reason-affect are subdued, and in some places overcome. After identifying the basic definitions of the terms of the subject-object and mind-body dualisms (which, in contrast to the terms of reason-affect, use technical definitions and therefore need explanation), the following exploration of that fabric will focus first upon the metaphysical threads by which all three of the dualisms, as well as dualistic thinking, are rendered impotent. Then, at the risk of removing the dualism from its embeddedness within the whole, the discussion will turn to additional conceptualities which respond specifically to each dualism.

Within the explication of the organic paradigm Whitehead uses the language of subject-object and mental-physical as denotative of specific meaning. The subject-object relationship defines a relationship between a subject, which is in the process of being actualized, and an object, which has already been actualized. The subject is characterized by immediacy, and processive concrescence. It does not exist before the concrescing activity; neither is it created from the outside. Rather, the subject creates itself through the very process of experiencing.⁷⁵ As Rasvihary Das states:

[O]rdinarily we think that the subject must already be there and a feeling simply supervenes upon it, and we take the subject to be the basis of feeling. In Whitehead's conception the process does not start

from the subject, but the subject is, as it were, thrown up by the process. So he prefers the term superject to subject. The subject-superject is the end at which the feelings aim.⁷⁶

When the subject reaches that end to which it aims, reaches its satisfaction, it ceases to be subject and becomes object. An object is an actual entity whose process has evaporated and therefore has become "definite, determinate, settled fact, stubborn, and ... unavoidable," as it intervenes, or is prehended, into future subjects.⁷⁷ Two conditions constitute an entity's functioning as an object: (1) it must be antecedent; and (2) it must be experienced by virtue of its antecedence; it must be given.⁷⁸

Whitehead's discussion of the mind-body dualism uses two sets of language: "mind and body" and "mental and physical." The latter set denotes a technical usage. Physical prehensions denote all prehensions of actual entities, of that which is determinate, or matter-of-fact. Thus, physical prehensions can be, and often are, of non-physical entities (as prehensions of past intuitions and memories exemplify). Mental, or conceptual prehensions denote all prehensions of eternal objects, of the potential and novel.⁷⁹ Thus, conceptual prehension, or prehension by the mental pole, has less to do with mentality as it has to do with novelty, or that which is not yet actualized. Mental prehensions can be, and often are, of potential physical entities.

Overcoming the Dualisms and Dualistic Thinking

The organic paradigm weaves a decisively anti-dualistic pattern through the use of seven primary threads. These threads essentially form the fabric of the paradigm and thus make explicit its fundamental anti-dualism.⁸⁰ More specifically, the epistemological dualisms of subject-object, mind-body, and reason-affect, are overcome by: the concrete, mutual immanence, systematic environment, prehensive and rhythmic unity, process, the reformed subjectivist principle, and the concept of value.

The first thread which functions to overcome these dualisms is the metaphysical primacy of the concrete. The actual entity as the ultimate ground of all reality is concrete. In making equivalent concrete and concrescence, Whitehead recasts concrete from "that which is physical or solid," to "the experience of the process of growing together." It is a uniting behind which and outside of which no other metaphysical reality can be found. However, the question does remain: does this concrete uniting resolve its incipient duality of components (mental and physical, actual and potential, one and many, etc.) which grow together? Reiner Wiehl poses the critiquing probe in this way:

Does the cosmological ideal and the corresponding ontological principle, does this assumption of a unified foundation or reason of unity in the form of the unity of a respective actual entity solve the problem of surmounting metaphysical dualism? Is it not the case that whenever an opposition is applied to something identical and to the unity of this identical entity, a contradiction will necessarily

arise rather than the opposition be dissolved? Does one not jeopardize the unity, originally assumed, of a uniform ground and reason if one attempts to solve the contradiction by distinguishing different respects and perspectives of what is opposed?⁸¹

Whitehead's response to this inherent threat of the dissolution of the concrete uniting when its duality is made explicit resides in the Fallacy of Misplaced Concreteness and its commensurate articulation of the nature of abstractions. The Fallacy of Misplaced Concreteness posits the "error of reifying what in fact is a high-order abstraction."⁸² The concrete exists as a metaphysical "coming-together," a togetherness. When one of the components in that "coming-together" is abstracted from it, that component has no metaphysical reality, no existence. The dual components exist together in concreteness, in the "coming-together," or not at all.

Thus the 'production of novel togetherness' is the ultimate notion embodied in the term 'concrecence.' These ultimate notions of 'production of novelty' and of 'concrete togetherness' are inexplicable either in terms of higher universals or in terms of the components participating in the concrecence. The analysis of the components abstracts from the concrecence.⁸³ (emphasis added)

In another context Whitehead explains the concept this way:

An electron is abstract because you cannot wipe out the whole structure of events and yet retain the electron in existence. In the same way the grin on the cat is abstract; and the molecule is really in the event in the same sense as the grin is really on the cat's face.⁸⁴

At the very point of naming distinct components of the unity one enters into abstraction. Thus, by abstraction one

component of the duality is isolated from the concrete togetherness and placed in opposition to another component. But, in the concrete no such dualism exists. "Wherever a vicious dualism appears, it is by reason of mistaking an abstraction for a final concrete fact."⁸⁵

As Whitehead sharpens his metaphysical critique of abstractions, he buttresses his anti-dualism position.⁸⁶ In contrast to Descartes, Whitehead does not attempt to reconcile tensions by moving to the general or overarching principles, thereby eschewing the "muddy" in favor of a transcendent "vista." Rather, he reconciles dualistic tensions by pushing below those abstract tensions to the bedrock of actuality, the concrete, the fact of togetherness. On that ground all abstractions, including dualisms, are inherently metaphysically defective. Abstractions do partake of limited credibility by virtue of their rootage in and reference to the concrete. But since abstraction is a function of isolation, of focusing upon one part, abstractions themselves are never expressive of more than partial truth. Only in the concrete is reality fully present.

A second thread by which the organic paradigm weaves an anti-dualistic epistemological fabric is the doctrine of Mutual Immanence. Dualism requires the existence of self contained substances whereby the essence of each has no determinative relationship to the other. The organic paradigm decisively undercuts the dualisms by effectively removing this

foundational ground upon which dualism stands. Metaphysically, there is no such thing as a self-contained substance whose essence requires nothing but itself, and whose relationships are unnecessary.⁸⁷ Substituting the metaphysical ground of mutual immanence for self-containment, Whitehead makes explicit that the two modes of the duality mirror reciprocity, each presupposing the other. The doctrine of mutual immanence posits that interdependence is not accidental but ontologically necessary. In the essential "connexity of the world" each mode requires the other; "each is for the sake of the other and cannot be torn from the other; each is what the other makes it to be."⁸⁸ There is no mind without body; there is no body without mind; (or subject without object, and object without subject). Even more fundamentally, since body is in mind by mutual immanence, the mind would not be what it is without the body (and vice versa). By the doctrine of mutual immanence the duality takes up the quality of complementarity, rather than dualistic opposition.⁸⁹ Essential complementarity deprives dualism of the "either-or" fuel it requires. As William Alston has adapted Shelley to say:

Nothing in the world is single;
All things by a law divine
In another's being mingle.⁹⁰

Whitehead makes congruent the doctrine of mutual immanence and the principle of internal relations.⁹¹ Thus, mutual immanence permeates the process of objectification

whereby one takes account of another. Whitehead finds in the Cartesian substance and its commensurate dualism an unacceptable deficiency. Dualism obfuscates causation. In the essential detachment of dualism how can one account for the transferring of one quality to another, or even the correspondence of one to another?⁹² Only the mutual immanence by which one is reenacted in another, by which one is active in the other's nature, makes causality intelligible. Further, such re-enactment cannot be reduced to transfer of character. In responding to one of his critics in a letter Whitehead firmly advocated the position in this way:

You seem to me at various points to forget my doctrine of 'immanence' which governs the whole treatment of objectification. Thus at times you write as tho' the connection between past and present is merely that of a transfer of character. Then there arises [*sic*] all the perplexities of 'correspondence' in epistemology, of causality, and of memory. The doctrine of immanence is fundamental.⁹³

Mutual immanence does not posit equal immanence. Mutuality is axiomatic; equality is not. The Principle of Intensive Relevance functions to distinguish between mutual and equal immanence. Through this principle Whitehead introduces the metaphysical axiom of gradation; each entity "has its own gradation of relevance" in the other.⁹⁴ Thus, even causality between inorganic and organic instances becomes explicable. While inorganic actual entities may have minimal mentality, they still partake of some mentality (defined in the organic

paradigm as the conceptual pole). Thus, by graded mutual immanence all dualistic substratums are dismantled.

The third thread used in weaving an anti-dualistic fabric shades mutual immanence with breadth. The thread of Systematic Environment draws mutual immanence into the arena of nexus, or more specifically, societies, enduring objects, events, all of which evidence the varied complexities of the order of nature. This thread and its prominence within the organic paradigm functions to overcome dualism in two ways. One, environment itself is constitutively anti-dualistic. Environments are constituted by the "sum of the characters of the various societies of actual entities" they encompass.⁹⁵ As part of his polemic against isolation, Whitehead speaks of this constitutive dynamic of environment or nature:

The false idea which we have to get rid of is that of nature as a mere aggregate of independent entities, each capable of isolation. According to this conception these entities, whose characters are capable of isolated definition, come together and by their accidental relations form the system of nature. This system is thus thoroughly accidental.... With this theory space might be without time, and time might be without space.... Also what we really observe in nature, its colours and its sounds and its touches are secondary qualities; in other words, they are not in nature at all but are accidental products of the relations between nature and mind. The explanation of nature which I urge as an alternative ideal to this accidental view of nature, is that nothing in nature could be what it is except as an ingredient in nature as it is.... The laws of nature are the outcome of the characters of the entities which we find in nature.⁹⁶ (emphasis added)

The environment takes its character from the entities in it. Thus, since all actual entities are constituted by both mental and physical, by both subjective immediacy and objective immortality, by both reason and emotion, environments also essentially comprise duality, but not dualism. Further, in the wider context of an environment, the gradation of mutual immanence of actual entities which often functions to make minimal one component of the duality in an entity may function to make maximum that component in another entity. In environments dualities have potential for much more balance than in actual entities. However, whether or not balance exists in the environment, the environment is constituted by both elements in the duality and cannot be comprehended without reference to both.

A second way in which the emphasis upon systematic environment functions to overcome dualism is through the mutuality of the individual entity and its environment. The character of each entity is dependent upon its environment; and the character of each environment is dependent upon the entities within it.

From the point of view of a single experient, that mode discloses systematic relations which dominated the environment. But the environment is dominated by these relationships by reason of the experiences of the individual occasions constituting the societies.... There is a systematic framework permeating all relevant fact.⁹⁷

Through this principle of the mutuality of environment and entities Whitehead explicates the concepts of endurance and

induction. It is the mutuality of environment and entities that explains endurance without the problematic resorting to Simple Location which underlies dualism. It is the mutuality of environment and entities which makes credible induction, a credibility which Cartesian substance and its dualisms can never furnish.⁹⁸ Because actual entities and environment are correlatives,⁹⁹ endurance results not from a self-contained substance, but from an actuality's interactive relationship to and in a sustaining environment. Because actual entities are not independent of their environment they can in a sense speak about their future environment. For as the environment takes account of actual entities, how the environment looks in the future will be implicated by those actual entities and can be broadly generalized from them. Thus, inductive judgment is cogent. Within the organic paradigm actual entities and environment are internally related; boundaries become permeable. The inherent separation and isolation of the dualisms are obliterated.

A fourth thread woven into the organic epistemological fabric which overcomes dualisms is the concept of Prehensive and Rhythmic Unity. The concept of unity functions as a vibrant thread in Whitehead's interwoven philosophy. In the following discussion the thread of unity will be viewed through two lenses: first, the lens of Prehensive Unity; and second, the lens of Rhythmic Unity.

According to the seventeenth Category, "whatever is a datum for a feeling has a unity as felt. Thus the many components of a complex datum have a unity: this unity is a 'contrast' of entities."¹⁰⁰ But not only is the datum a unity; the very process of concrescence is definitively a unifying process through which satisfaction takes up the reality of unity, specifically prehensive unity. Actuality essentially is the unity of composition, the holding together of "entities which are individually alien into components of a complex which is concretely one" (emphasis added).¹⁰¹ This ontological primacy of unity, wherein what is actual is a unification, and the very process of becoming is a process of unifying, makes problematic dualistic thinking, wherein separation and division have ontological status.

The concept of unity has a dual function within the organic paradigm. It functions internally, as the unity of concrescence. And it functions externally, as the unity of a nexus and the unity of the universe manifested in the extensive continuum.¹⁰² Internally, prehensive unity asserts satisfaction to be, as Elizabeth Kraus says, "a unitary feeling" which denotes "the togetherness of a manifold" of other entities.¹⁰³ Further, this unity of concrescence implicates the whole universe in each actual entity.

In the philosophy of organism, an actual occasion ... is the whole universe in process of attainment of a particular satisfaction.... The final actuality is the particular process with its particular attainment of satisfaction. The actuality of the universe is merely derivative from

its solidarity in each actual entity.¹⁰⁴ (emphasis added)

Externally, prehensive unity gives rise to a nexus. (The word nexus is a Latin word which means "a joining" or "a binding together."¹⁰⁵) The discernment of nexus, of chairs, plants, bees, persons, molecules, to be essentially a unity and not a substance amplifies the problematic nature of dualistic isolation. When chairs, plants, cups, persons, are perceived as a unity of datum rather than as a single self contained substance dualistic isolation fails to account for their being. The experience of isolation counters the very being of a nexus. Thus, metaphysically, dualistic isolation must struggle against the inherent gravitation of the universe toward being, toward the unification of nexus. The metaphysical shift from substance to nexus unmask this problem of dualistic isolation.

When viewed externally, prehensive unity posits inherent solidarity, not only through nexus, but also through the extensive continuum. The extensive continuum solidifies the concept of unity by mitigating the potential isolation and dualism of actualities vis-a-vis the universe. Since prehensive unifications lead to a multiplicity of entities, unity could be lost in an infinite pluralism. But it is not only actual entities and nexus which exemplify unity. Time and space also "exhibit interlocked relations."¹⁰⁶ The multiplicity of actual entities and nexus are further

interlocked by this extensive continuum beyond them. Thus, the unity evidenced by the extensive continuum balances the multiplicity of entities so that dualism is once again thwarted.¹⁰⁷

The pivotal accent upon unity, specifically prehensive unity, constructs an ethos within which dualism is mitigated. But the overcoming of dualistic thinking occurs not because different actualities are unified through concrescence. For in such a claim is the implicit capability of the unified actualities to become "un-unified" and exist in that "un-unified" state. The overcoming of dualism occurs in the more radical nature of this prehensive unity. Prehensive unity denotes not a marriage of individuals, whose divorce only dissolves the unity. Prehensive unity denotes a merger, outside of which the components have no existence. In this concrete unity, actuality belongs only to the unity. When any part separates from the unity, it ceases to partake of actuality. Explicating this premise through the specific case of volume, Whitehead concludes:

Accordingly, the prime fact is the prehensive unity of volume, and this unity is mitigated or limited by the separated unities of the innumerable contained parts. We have a prehensive unity, which is yet held apart as an aggregate of contained parts. But the prehensive unity of the volume is not the unity of a mere logical aggregate of parts. The parts form an ordered aggregate, in the sense that each part is something from the standpoint of every other part.... [which is their essence]. The volumes of space have no independent existence. They are only entities as within the totality; you cannot extract them from their environment without

destruction of their very essence.¹⁰⁸ (emphasis added)

To separate from a unity is to abstract, and the separated component, as abstraction, loses its essence, its being.¹⁰⁹ Thus, Whitehead speaks of actuality as incurably atomic and of divisibility as concerning what is potential, but not actual.¹¹⁰ While prehensive unity actualizes distinct components, dualism is metaphysically nullified by the inability of those components to exist outside the unity.

The second lens which illumines the function of the unity thread within the organic paradigm is the lens of Rhythmic Unity. Rhythm denotes a pattern wherein the different modes of sameness and novelty are held together, "so that the whole never loses the essential unity of the pattern, while the parts exhibit the contrast arising from the novelty of their detail."¹¹¹ Pattern inherently holds together a multiplicity in a unity.¹¹² Such unity is achieved by the embracing of contrast, decisively negating the view that differences exist in intrinsic antagonism, or that differences necessitate separation. In fact, rhythm would not exist at all were it not for the contrast of differences. Such harmonized unity or aesthetic contrast, as Whitehead called it, mitigates dualistic thinking by drawing differences into, what Jeffrey Stamps notes as, the complementarity of binary relationships.

Complementarity is easily recognized in binary relationships which are completely meaningless without the implication of an opposite. Convex-concave is one example.... Inside and outside are complementary ... Janus ... is a symbol of the unity

underlying inside and outside, peace and war, open and shut, past and future. Left/right, on/off, yes/no, hot/cold, and up/down are complements of the same sort. From the mundane to the sublime, complementary is a fundamental explanatory principle.¹¹³

The complementarity of binary relationships functions also in prehensive unity. The nature of unity within the organic paradigm is a radical unity. Fundamentally, it formulates unity as an Gestalt unity, in which the relationship of whole and parts confesses mutual necessity. In any single image, such as a picture, Gestalt or binary relational theory unmasks this character of unity by illustrating that both background and foreground are required for the image. To remove one is to destroy both. Only in the totality of whole and part is either discerned or even present. To the degree that dualism affirms wholes it is contingent upon wholes being the summation of parts. But prehensive and rhythmic unity discerns wholes as mutually implicated with their parts.

The whole of the process is not constituted by the summation of its parts; rather, it evokes and pervades its parts: the actual entity is an organism both directing and emerging from the synthesis of its various prehensions.... Nature,... as [the] complex of prehensive unifications, [is] the unity of which results from the immanence of the whole in each part and of each part in every other part. Each actual entity is the totality of nature in microcosmic perspective; every perspective is therefore essentially linked with every other perspective.¹¹⁴

Or as Whitehead explicates:

The unity of this field is the unity of the event.
But it is the event as one entity, and not the event

as a sum of parts. The relations of the parts, to each other and to the whole, are their aspects, each in the other.¹¹⁵

Such Gestalt unity forms a decisive overturning of dualism wherein the whole exists as a chain of parts, the removal of any part not essentially affecting the whole. By prehensive and rhythmic unity wholes and parts necessitate each other.

A fifth thread by which the organic paradigm weaves a non-dualistic epistemological fabric is the thread of process itself. The polemic of Whitehead's explication of a processive view of reality is a passionate contention against what he saw as two fundamental problems of traditional metaphysics: the bifurcation of nature and the subject-predicate mental and linguistic frame. The metaphysical concept of process served to dismantle these entrenched views of reality as it posited a decisive alternative to their dualistic rubrics.

Definitively, the bifurcation of nature posits that in reality two systems exist, both of which are real, but real in different senses. Depending on the context of the discussion, these two systems are mind and nature, mentality and material, human nature and physical nature, or ideas (sense perceptions and intuitions which are in the mind and therefore constitute appearance) and things (molecules and particles which are in nature and therefore constitute reality). In a bifurcated reality one is constantly faced with such questions as: is what one discerns in the mind or

in nature? of appearance or of reality? is what is true of physical nature also true of human experience? Bifurcation predicates primary differences in nature upon different ways of being real.

The subject-predicate mental and linguistic frame posits a metaphysic of an essentially unchanged subject which is qualified by accidental relations. Thus, while predicates denote changeable qualities which at various times overlay the subject, the subject denotes the substratum which underlies all such addition. Whitehead explicitly links the subject-predicate linguistic form to the substance-accident metaphysic and underscores its metaphysical incoherence.

If you once conceive fundamental fact as a multiplicity of subjects qualified by predicates, you must fail to give a coherent account of experience. The disjunction of subjects is the presupposition from which you start, and you can only account for conjunctive relations by some fallacious sleight of hand, such as Leibniz's metaphor of his monads engaged in mirroring. The alternative philosophic position must commence with denouncing the whole idea of 'subject qualified by predicate' as a trap set for philosophers by the syntax of language.¹¹⁶

Subject-predicate syntax becomes intertwined with a bifurcated nature as the subject-substance unequivocally denotes reality but the reality of the changeable qualities, often residing in the mind, is questionable.

The metaphysical category of process responds to the bifurcation of nature and the subject-predicate frame by denying their validity and by positing an alternative vision.

Since the dualisms in a bifurcated world require the relative equality but separation of its parts, the reconciliation of those parts emerges through a vision which discerns both the partiality of each and a definitional means by which to "think them together."¹¹⁷ By means of this more comprehensive perspective, one discerns that what formerly looked to be primary is secondary and what looked to be secondary is primary. In the organic paradigm the relations between the parts are primary, and the parts are secondary, so that within those relations, within that bedrock process of relating, bifurcation becomes an illusion.

The reason why the bifurcation of nature is always creeping back into scientific philosophy is the extreme difficulty of exhibiting the perceived redness and warmth of the fire in one system of relations with the agitated molecules of carbon and oxygen, with the radiant energy from them, and with the various functionings of the material body. Unless we produce the all-embracing relations, we are faced with a bifurcated nature; namely, warmth and redness on one side, and molecules, electrons and ether on the other side.¹¹⁸

Process, the essential relating of entities in the constitution of a new entity, grounds reality. Consequently, all reality is real by virtue of this process. Intuitions and chairs, plants and humans, minds and bodies, redness and electrons, are not real in different senses, but partake of their reality in the same sense, by the process of concrescence. And most emphatically, Whitehead promulgates that mind, and qualities, are a part of nature. There is "but one nature" emerging from one process.¹¹⁹

The primacy of process correlatively subordinates the parts. Thus, in this alternative vision, and in contrast to Cartesian epistemology, the nature of the differentiation between subjects and objects, between mental and physical, is not primary and essential, but rather, secondary and derivative. The differentiations of subjects and objects, of mental and physical, denote "modes of functioning." Two premises are to be asserted by this category of "modes": one, modes do engender dipolarity; and two, modes denote abstract and derivative conceptualities. Since modes do not metaphysically constitute different kinds of particulars, but rather, two ways the same particular functions, they speak of "two sides of the same coin." Whitehead drew upon the "two sides of the same coin" linguistic style to speak of the dipolarity of each entity being a subject and object:

If we stress the role of the environment, this process is causation. If we stress the role of my immediate pattern of active enjoyment, this process is self creation.¹²⁰

.....
 An actual entity considered in reference to the publicity of things is a 'superject'; An actual entity considered in reference to the privacy of things is a 'subject.'¹²¹

There are two sides. Every actual entity is both mental and physical, subject and object.¹²² And just as two sides of a coin can never be split, so dipolarity repudiates division. This premise extends to bodies and minds, as well, for the two can never be torn apart. The unity of body and mind is to be

discerned in the primary experience of one's deepest being, intuited in the strangeness of the comment: "Here am I, and I have brought my body with me."¹²³ Dipolarity, as the functioning of two modes of the same entity, makes the often antithetical relation of dualism seem as absurd as asking "two ends of a worm to quarrel."¹²⁴ Modes deny all dualist separation as they fundamentally require and draw upon the process of relating. The nature of dipolar modes is interconnection.

The category of "functioning modes" within process asserts a second premise, the premise that the modes themselves denote abstract and derivative conceptualities. They are not concrete nor fundamental concepts, but rather, as modes, they derive their function from what is concrete and fundamental, the process. More specifically, the functioning modes of subject and object, mental and physical, do not exist before the process. They can only be discerned or explained in terms of the process. As the Category of the Ultimate replaces the category of "primary substance,"¹²⁵ all substance categories become derivative. In his discussion of causation Whitehead explicates this inversion, whereby the mode of being subject is not preexistent but emerges from the process, as fundamental in an alternative vision.

Descartes' argument, from the very fact of thinking, assumes that this freely determined operation is thereby constitutive of an occasion in the endurance of an actual entity. He writes ... "I am, I exist, is necessarily true each time that I pronounce it, or that I mentally conceive it." Descartes in his

own philosophy conceives the thinker as creating the occasional thought. The philosophy of organism inverts the order, and conceives the thought as a constituent operation in the creation of the occasional thinker. The thinker is the final end whereby there is the thought. In this inversion we have the final contrast between a philosophy of substance and a philosophy of organism. The operations of an organism are directed towards the organism as a 'superject' and are not directed from the organism as a 'subject'.¹²⁶ (emphasis added)

The primacy of process and the derivativeness of modes or substances radically undercuts the subject-predicate metaphysic. The subject-with-a-predicate is only to be derived from the original act of interconnection. Subject-predicate syntax deludes one into thinking that a subject can be separated from its relations, its predicate. But, when the process is discerned to be primary, a subject with its qualifications exists only as a high level abstraction. To discern otherwise is to enter into the Fallacy of Misplaced Concreteness.¹²⁷ The "subject acting upon object" structure of experience embedded in the subject-predicate syntax exists only in abstraction, for on the "ground floor" of the process, there is no division whereby a thing did something to another thing. Rather, only from the process do things, mind or matter, subjects or objects, even emerge for which language can then attribute substance and quality categories.¹²⁸

Given the primacy of process and the derivative nature of modes, perception, which is so embedded in subject-predicate statements, must also be reinterpreted. Perception as a process institutes the connectional or relational event

as the fundamental category of knowing, from which the modes of knower and known are derived. Elizabeth Kraus explicates this fundamental premise in this way:

Just as a line is not drawn between two separate, pre-existing points thereby joining them but rather contains and constitutes its endpoints as limits, so the relation of perception constitutes both perceiver and perceived and is not an accidental linkage between already constituted entities. The co-presence in the forest of falling tree and ear constitutes the tree as noisy and the ear as a sensing organ. Without the ear, the tree is silent; without the tree, the ear is a vestigial structure of flesh and cartilage. With both as interrelated events within the totum of the forest, the sound is the tree-event in its relation to the ear and the ear-event in its relation to the tree. Only in abstract can one talk about ears and trees as though they were things involved in relations with other things.¹²⁹

As process undercuts the bifurcation of nature and the subject-predicate epistemological frame, it fundamentally abolishes the Cartesian detached mind. In the event of perception, mind is essentially related to the perceived object. Mind and matter are not detached from each other. Rather, the emphasis upon one nature, one process, establishes that mentality is immersed in all nature and is inseparable from it.¹³⁰ In Patricia Carini's words: "detachment is abrogated and the merging of the viewer and the viewed brings a new meaning into existence, reflective of both ..., enhancing of each and the possession of neither."¹³¹ Perception resonates with the active and intrinsic participation of all modes, of mental and physical, subject and object, mind and body.

A sixth thread by which the organic paradigm weaves a non-dualistic epistemological fabric is the Reformed Subjectivist Principle. This thread is closely linked with the process thread in its passionate denial of the bifurcation of nature and the subject-predicate mental and linguistic frame. However, Whitehead elevates it to a principle and thus seemingly bestows upon it the prominence by which it can justifiably be discussed as another thread in the fabric.

In Process and Reality Whitehead formulates the Reformed Subjectivist Principle in dialogue with Hume's twofold doctrine: (1) the subjectivist principle with its inherent rootage in substance and quality, and in the experiencing subject; and (2) the sensationalist principle with its ideology of pure sensation without linkage with and subjective reception of particular existents.¹³² Whitehead denies both these doctrines but does embrace a "reformed" subjectivist doctrine promulgating that all reality is to be found in "experiencing subjects." For since process is the "becoming of experience," then "apart from the experience of subjects there is nothing, nothing, nothing, bare nothingness."¹³³ The enshrining of experiencing subjects as the metaphysical universal category repudiates bifurcation. In reforming the subjectivist principle of Hume and of Descartes, Whitehead accepts the primacy of the experient subject but denies the metaphysical corollaries of substance and quality which engender the dualistic selective application of the principle.

Thus, the principle becomes radicalized in its reformed formulation, positing that all nature, human and nonhuman, exemplifies this subjectivist doctrine. Further, all nature, human and nonhuman, functions as qualifications, as potential for the becoming of other experiencing subjects. The reformed subjectivist principle radically undercuts the intrinsic bifurcation of the traditional subjectivist doctrine.

Whitehead unequivocally denies the sensationalist doctrine. The primary metaphysical data are not universals but "ideas of particular existents."¹³⁴ The primary metaphysical data are not universals such as redness, or chairness, or treeness. Rather, the primary metaphysical datum is the particular red-chair-sitting-under-the-oak. While the prehension of this particular existent is mediated by universals, by the qualities of redness, chairness, and treeness, the role and presence of the universals can only be perceived as they are embodied in the existent. Anchoring this denial of the sensationalist doctrine in the doctrine of objectification, Whitehead makes two pivotal claims. One, perception portrays more than mere sensation; perception is energized by non-sensuous experience.¹³⁵ Two, the objects which are perceived do exist outside of the subject. To embrace the primacy of the experiencing subject does not require the sensationalist corollary of sensations as essentially and exclusively subjective and mental. The "grey stone" cannot be divided into the substance "stone" and the

quality "grey," whereby, the greyness becomes a subjective sensation. Rather, the "grey stone" exists as the object of experience. The relativity embedded in experience "does not imply subjectivity."¹³⁶

In his earlier work Whitehead postulates his realism in the premise that "nature is closed to mind." There is a "self containedness in nature" disclosed as a "complex of entities whose mutual relations are expressible in thought without reference to mind."¹³⁷ Here Whitehead explicates that the objects which are perceived are, indeed, in nature; they are not merely the content of the mind. It is a decisive argument against bifurcation and its linchpin of data in the mind which do not themselves appear in nature.¹³⁸ More specifically, what Whitehead intends to deny is that cognitive mentality is inextricably present in nature. Given the metaphysical function of prehensions, this closedness of nature posits a nuanced premise that nature, in Paul Schmidt's words, "is systematically interrelated," and at the same time, "rationally comprehensible without reference to mind."¹³⁹ The pivotal issue in the concept of nature as "closed to mind" is the reality of the external world. Whitehead buttresses his anti-dualism posture by extolling that there are "other things ... in the world of actualities in the same sense as we are."¹⁴⁰

The issue of nature "closed to mind" raises several questions of coherence within the organic paradigm. To what

degree can interrelationships and closedness be held coherently in the same paradigm? James Felt frames part of the tension in this way:

[Whitehead's] notion of nature and its closure ... is easily misunderstood. On the one hand he does not mean that thought and sense-awareness are not an essential part of nature; on the other, his view is not a pure phenomenism: nature is "disclosed" in sense perception as "self-contained against sense-awareness" (Nature, p. 4). Whitehead thus attempts to maintain an epistemological balance in his very concept of nature.¹⁴¹ (emphasis added)

The epistemological issue within the closedness of nature poses a fundamental question: is the role of mind in perceiving nature one of reception (awareness) or creation (participation)? Objects in nature are perceived in human cognition as nexus by the Category of Transmutation. The Category of Transmutation exemplifies abstraction and therefore grounds perception in cognitive creation rather than reception.¹⁴² In John Blyth's analysis of this issue, he posits an inherent contradiction between Whitehead's two theses: (1) objects are given in the real world to a prehending subject; and (2) objects are given as nexus by the Category of Transmutation. "It cannot, therefore, be said that a transmuted feeling gives us direct information about objects as they are in the actual world about us."¹⁴³ Nature as "closed to mind" inserts an epistemological enigma into the organic paradigm.

Partial response to this enigma may be found in several of Whitehead's pivots. One, nexus is an abstraction but its

multiplicity is concrete; its multiplicity exists in nature. Two, the self containedness of nature intends to posit that that multiplicity exists external to human cognition; there is a common world which is disclosed in sense perception. While nexus is dependent upon participative perception of the knower, the multiplicity informing that nexus does exist in nature outside of the perceived nexus and is non-dependent upon it. Three, only in subjective experience is the perception of that multiplicity, the nexus, to be accounted for. With these three pivots, Whitehead postulates a provisional realism. However, this provisional realism, anchored in the reformed subjectivist principle, provides only a skeleton response to the enigma. Whitehead's attempt to establish an epistemological balance between subjectivism and objectivism remains vulnerable to the elusive issues of the epistemological role of human cognition in a "closed" nature.

While the reformed subjectivist principle is undergirded by the bedrock assertion that objects in nature are not dependent upon the human mind, its realism also decisively shapes the understanding of the human mind. As an experiencing subject, specifically as a subject whose experience is constituted by organic process, is immersed in the matrix of a real external world, that subject is no longer capable of pure privacy. In responding to Descartes's assertion that the sun existing in the mind is distinct from

the sun existing in the sky, Whitehead unmaskes the problem of the privacy of the mind.

Both Descartes and Locke, in order to close the gap between idea representing and "actual entity represented," require this doctrine of 'the sun itself existing in the mind.' But though, as in this passage, they at times casually state it in order to push aside the epistemological difficulty, they neither of them live up to these admissions. They relapse into the tacit presupposition of the mind with its private ideas which are in fact qualities without intelligible connection with the entities represented.¹⁴⁴

In the reformed subjectivist principle, subjects intelligibly experience real entities in the external world. Minds as individual substances with private worlds cannot be maintained in a metaphysic which asserts that the actuality within is derived from a world without. Or more specifically, actuality blends public and private spheres.

The theory of prehensions is founded upon the doctrine that there are no concrete facts which are merely public, or merely private.... [E]very prehension has its public side and its private side.... The facts of nature are the actualities; and the facts into which the actualities are divisible are their prehensions, with their public origins, their private forms, and their private aims.... Prehensions have public careers, but they are born privately.¹⁴⁵

Dualistic separation of mind and body, of substance and quality, evokes a private world of mind, a house of impermeable walls in which images and qualities reside. The mind encases a world inside. In contrast, the organic paradigm posits a fundamental reversal. In one of his lectures Whitehead frames the reversal this way:

To meet the difficulty of secondary qualities ... you can't say they are there in the object; you don't like to say they are in your head; and so you say they are in your mind! If so, you make Hume inevitable, and Kant. To avoid this you must recognize that the description of the given fact has been too simple.... Mind is inside its images, not its images inside the mind.... I am immersed in the topic, not the reverse.... We are actors in scenes -- you and I in this scene -- not the scene inside us.... This is not a horrid paradox, but a plain man on top of a bus.¹⁴⁶

The reformed subjectivist principle functions to overcome the self-world dualism of the Cartesian substance metaphysic. The fundamental character of experiencing subjects within a real external world punctures the rigid boundaries between self and world of the Cartesian paradigm. By internal relations experiencing subjects and their real external world intermingle so that all inside-outside categories become blurred. Further, such experience belongs to all nature, so that internal relations between self and world are also causally efficacious of both self and world.¹⁴⁷ Simple location no longer places the self in bounded space, but rather experiencing subjects in an real external world find themselves everywhere at all times, in a self-world merger which Reto Fetz calls an "ontological egocentricity."¹⁴⁸ Self and world as unlocated, or permeably located, find themselves both in and out of each other. In the organic paradigm space is no longer insulating, and self finds itself at home in the world.¹⁴⁹

A seventh thread by which the organic paradigm weaves a non-dualistic epistemological fabric is the concept of value. In the organic metaphysic value inheres in each actual occasion by virtue of its own concrescence. To be is to have value. Through this ontological equation of value and being, value acquires a status in nature as the intrinsic, immediate character of each event.¹⁵⁰ The radicalness of the organic concept of value becomes evident in its explication that all actuality, human and non-human, partakes of intrinsic value. Victor Lowe links this universalizing of value with the negation of the dualism between fact and value:

Whitehead does not wish to think that intrinsic value is an exclusive property of superior beings; rather it belongs to even "the most trivial puff of existence." In human life, he finds value not far off, but at hand as the living essence of present experience. If every puff of existence is a pulse of some kind of immediate experience, there can be no final dualism of value and fact in the universe.¹⁵¹

The wedding of value to each fact of existence mitigates the dualistic tendency to attribute valuelessness to mere matter. Value heralds not utilitarian relationship but rather internal identity; each actual occasion by virtue of its own self realization is important "in-itself" and "for-itself."¹⁵² In contrast to the Cartesian dualistic paradigm, the organic paradigm asserts value to be universal and intrinsic.

The organic paradigm weaves a decisive non-dualistic epistemological fabric through these seven threads: the concrete, mutual immanence, systematic environment, prehensive

and rhythmic unity, process, reformed subjectivist principle, and the concept of value. But in addition to these prominent threads, several others are interwoven into the fabric through the paradigm's response to each of the specific dualisms of subject-object, mind-body, and reason-affect.

Subject-Object Dualism

In the explication of the relationship between subject and object, Whitehead posits the fundamental category of the superject. In the process and immediacy of its becoming, the actual entity is a subject; at the moment of satisfaction and through its life of objective immortality the entity is a superject. Whitehead postulates the relationship between subject and superject as a hyphenated relationship, the subject always being "an abbreviation of subject-superject."¹⁵³ Thus, the one entity is both subjective agent of its own becoming and the static product of that becoming.¹⁵⁴ The superject becomes the meeting ground of the subject and object. Viewed from the perspective of the subject, every superject is the objective immortality of its actuality. Viewed from the perspective of the object, every superject is the subjective self realization of its actuality.

As superject each actual entity is a potential component in the becoming of other entities. This posture forms the underpinnings in the organic paradigm of an explicit reversal in subject-object relations from Cartesian and Kantian formulations.

The philosophies of substance presuppose a subject which then encounters a datum, and then reacts to the datum. The philosophy of organism presupposes a datum which is met with feelings, and progressively attains the unity of a subject. But with this doctrine, 'superject' would be a better term than 'subject.'¹⁵⁵

This object to subject movement flips the ontological and epistemological issues from how objects and their perception can emerge from subjective experience, to how subjective experience can (and does) emerge from objects and an objective world.¹⁵⁶ Subjects are derived from objects as objects grow together to form the subject-superject.

The doctrine of the superject adduces a pivotal construct in the dissolution of the subject-object dualism for three reasons: (1) through the subjective aim the superject is functioning in the immediacy of concrescence; (2) the nature of the object anchored in the superject evidences a dynamic quality; and (3) the lens of the superject discloses the subject-object relation to be one of mutual transcendence. These three planks in the organic paradigm are pivotal in the anti-dualistic reformulation of subject-object relations.

First, the subjective aim and its linkage of subject and object is explicitly found in the doctrine of the superject. Throughout the concrescing process the subjective aim operates to guide the progressive integrations of the occasion toward that occasion's superject. Jorge Norbo explicates the process in this way:

[T]he analysis of what an occasion is qua subject requires a reference to what the same occasion will

be qua superject; for the subject is not an aimless, creative process, but is guided instead by its ideal of what the superject or outcome of that process is to be.... In this respect, therefore, the superject is already present (ideally or conceptually) as a condition determining how the process conducts itself (Process and Reality, 223).¹⁵⁷

In its objective immortality, ushered in by its superjective functioning, an occasion as object has some presence in its very "coming-to-be," its subjective concrescence. As subject, an occasion shapes itself in terms of its objectness, in terms of what is it to be beyond itself. The subjective aim of a subject functions fundamentally superjectively, as energy which functions internally with an external focus. Thus, the subjective aim draws into the internal becoming process of a subject the external criteria of what it will be as object in subjects beyond it. As Elizabeth Kraus notes:

This transcendent functioning of an actual entity is termed its objectification, and is inseparable from the entity's self-functioning. An entity is not to be viewed as "selfishly" directing its decisions only toward its own achievement. Its superjective functioning is as much a part of its initial aim as is its subjective activity.¹⁵⁸

This conjunctive self definition of subject-object is sharpened by Whitehead's pivot that the subject does not know its own satisfaction. The satisfaction of subjectness, that quality of subjective fulfillment, can only be known in its objectness, by its objectification in others beyond it.¹⁵⁹ Thus, in the very concrescing of the subject and in its objective immortality, the subjective aim functions to negate any separation of subject and object. The occasion as subject

becomes internally and constitutively intermingled with the occasion as object and its relations; the occasion as object becomes definitively shaped by the occasion as subject and its satisfaction.

Second, the subject-object dualism is decisively repudiated by the dynamic nature of the object as it is anchored in the superject. Much of the Cartesian subject-object dualism is fueled by the presupposition of an active subject and a passive, inert object. Shaping a subject-acting-upon-an-object structure of experience, the dualism attributes power and agency to the subject and vacuity to the object. As previously noted, Whitehead passionately attacks this form of the dualism by undercutting the subject-predicate mental and linguistic frame.¹⁶⁰ But an additional negation of the dualism is found in the organic paradigm's concept of the object. In very specific motifs the organic paradigm asserts the object not to be passive and inert, but to participate, as does the subject, in power and agency. In this redefinition of object the paradigm exposes the subject-acting-upon-an-object structure of experience to be metaphysically inaccurate and deceiving.

One motif in the redefinition of object is Whitehead's denial of the vacuous actuality of an object.

The four categories of explanation, (x) to (xiii), constitute the repudiation of the notion of vacuous actuality, which haunts realistic philosophy. The term 'vacuous actuality' here means the notion of a res vera devoid of subjective immediacy. This

repudiation is fundamental for the organic philosophy.¹⁶¹

All actuality is anchored in subjective immediacy. Objects are definitively those actual entities whose subjective immediacy has perished, but not actual entities outside of subjective immediacy. In fact, by virtue of the bridge of the superject, a hyphenation with subjective immediacy, objects are only removed from subjective immediacy by the blink of an eye. Thus, in the subject-object experience, the subject interacts with objects which are events, not things, objects which are rooted in subjectness.¹⁶²

A second motif which functions to re-define the concept of object and establish its dynamism is efficient causation. Whitehead embraces the traditional concept of causality as inhering in the subject, causality as autonomy; however, he pushes the understanding of causality to include its empowering residence in the object. The superject of each actual entity carries a vector quality by which it functions in causation of other entities. Whitehead most often speaks of this vector quality as "laying an obligation" upon future entities. Thus, when an actuality loses its final causation as subject, it gains efficient causation as object. In explication of the categoreal scheme he notes: "The eighteenth category asserts that the obligations imposed on the becoming of any particular entity arise from the constitutions of other actual entities" (emphasis added).¹⁶³ Objects are not inert

facts;¹⁶⁴ objects have power in their function of constraining subjects to be what they are. And once again, the "subject-acting-upon-an-object" structure of experience is unequivocally denied. Rather, given the efficacy of objects, actuality is more consonant with "objects-acting," specifically, "objects-acting-within-creativity" to evoke subjects.

[N]o entity can be divorced from the notion of creativity. An entity is at least a particular form capable of infusing its own particularity into creativity. An actual entity ... is more than that; but, at least, it is that.¹⁶⁵

Throughout Whitehead's discussion of the role and presence of the object in the subject-object relation, a third motif of his re-definition enhances the dynamic nature of the causation function of the object. Whitehead discusses the objective in subjective and active terms. Technically, the object denotes actuality whose subjectiveness has perished. However, Whitehead counters the implication of a dead object, which fundamentally underlies dualistic relations of subject and object, by a very strong polemic toward the active quality of the object in its efficient causation. A literary survey of the texts evidences objects being linked with active and subjective verbs; objects "intervene," "infuse," "lay compulsion upon," "constrain," "will not allow," "give consequences," "carry creativity," "impress themselves."¹⁶⁶ Denying that an object is a dead or passive thing, Whitehead accents its role as agent in creating:

[T]he actual entity as self-creating creature passes into its immortal function of part-creator of the transcendent world. In its self-creation the actual entity is guided by its ideal of itself as individual satisfaction and as transcendent creator.¹⁶⁷ (emphasis added)

This pervasive linguistic formulation may be dismissed as an aberration or as a metaphysical anomaly which inserts an incoherent chord into the paradigm. How can an object, whose life has perished, be attributed with the agency characteristic of a subject? However, in the context of Whitehead's position on the relation of subject and object, this linguistic form is telling. It is consonant with Whitehead's accent on the radical and compelling role of the object in causation. In a very real sense, the object is not just being acted upon, the object acts; the object does not just constitute a passive given, the object constitutes a creative giver.¹⁶⁸ Thus, objects can validly be hermeneutically discerned through subjective and active language.

Questions regarding the nature of the object in the subject-object dualism are engendered through issues of agency and power, causation and freedom. In the Cartesian dualism the subjects acts, the object receives. More specifically, the subject, in its freedom and power, acts upon the object; the subject objectifies the object, or makes the object "object" for the subject's use. In the subject-acts-upon-object structure of experience the power to make the object

an object to experience belongs to the subject. But in the organic paradigm the question of the agency and power of objectifying becomes more nuanced. The pivot of that agency and power is anchored in the notion of germaneness of relevance. Two texts exemplify this nuanced process of objectifying.

In a feeling the actual world, selectively appropriated, is the presupposed datum, not formless but with its own realized form selectively germane, in other words 'objectified.'¹⁶⁹

.
Thus in a simple physical feeling there are two actual entities concerned. One of them is the subject of that feeling, and the other is the initial datum of the feeling. A second feeling is also concerned, namely, the objective datum of the simple physical feeling. This second feeling is the 'objectification' of its subject for the subject of the simple physical feeling. The initial datum is objectified as being the subject of the feeling which is the objective datum: the objectification is the 'perspective' of the initial datum.¹⁷⁰

Here Whitehead speaks of the act of selection by which the object becomes germane to the subject, becomes objectified. One reading of the texts could be that the subject selects the object or datum of the object to be germane to itself. But another reading could accent the fact that the object self selected its datum through the subjective aim and in its self selection decided its role of germaneness for subjects which followed it. This latter reading seems to be more explicit in the second text, wherein the objectification of feelings belongs to the initial datum, or to the object, and not to the subject.

Who has the agency or power to objectify, the subject or the object? Whitehead posits that both do. In the subject-object relation, the object brings the drive to be germane or relevant, and the superjective functioning of being just that. The subject brings the deciding activity of prehensive unification and its function to enact germaneness of relevancy from among the limitations laid upon it by the object. In Elizabeth Kraus's words, "each past actual occasion decides the ways in which it could be objectified; the present decides the way in which it is to be objectified."¹⁷ As both subject and object partake of agency and power the dualistic premise that agency exclusively defines the subject is repudiated.

In the re-definition of the concept of object and the establishment of its dynamism, a fourth motif is extrapolated from Whitehead's writings by Marjorie Suchocki. Suchocki argues that retention of subjective immediacy occurs through the prehensive activity of God. Dualistic subject-object relations are grounded in the premise that the object is devoid of subjective immediacy and functions as a passive given. While creatures in organic subject-object relations do notprehend contemporaries and therefore neverprehend the other in its subjective immediacy, Suchocki posits that by the mediation of God creatures can feel the immediacies of others.

"Immediacy" is Whitehead's peculiar term for the subjectivity of experience; it is the subjectively felt identity of every drop of experience. God has "immediacy," and every particle of existence likewise has "immediacy." If God receives the world in a "unison of immediacy," does this not mean that

the subjectivity of the finite occasion is taken into the subjectivity of God? And if there is a "retention of mutual immediacy," could this not indicate that both immediacies are retained in mutuality?... One must push this mutuality even further in light of the fact that God feels not selected actualities, but all actualities. Since they are all felt by the subjectivity which is God, would it not be the case that insofar as every finite reality feels its own immediacy in and through God, it would feel all the other immediacies in God as well?¹⁷²

An object felt in its subjective immediacy no longer fulfills the role of object in a subject-object dualism. The object, felt through the mediation of God, no longer is an inert, lifeless thing, but now brings to the relation a subjectivity which places the relationship in mutuality. While Whitehead did not explicitly delineate the concept of the retention of subjective immediacy, its pulsebeat is close to his concept of the object as it relates to the subject. Just a slip to one side or the other makes the object, a subject, and the subject, an object. At one point that closeness did slip into language. Whitehead was addressing the concept of hybrid prehensions and made this statement: "It is sufficient to state here that a 'hybrid' prehension is the prehension by one subject of a conceptual prehension, ... belonging to the mentality of another subject" (emphasis added).¹⁷³ While technically, a subject prehends only the mentality (or partial mentality) of another object, that object is so close to a subject, that the language permits such interchange. The presence of subjectivity in the object, and even more sharply,

the retention of subjective immediacy, casts the subject-object relations as relations of deep mutuality.

The doctrine of the superject functions in the dissolution of the subject-object dualism in three ways. First, through the subjective aim it functions in the immediacy of the concrescence, thus forming a bridge between objective immortality and subjective immediacy. Secondly, it redefines the nature of the object. The object anchored in the superject takes on a dynamic quality evidenced by the four motifs of: denial of vacuous actuality, efficient causation, subjective and active language, and retention of subjective immediacy. Thirdly, the lens of the superject discloses the subject-object relation to be one of mutual transcendence.

The mutual transcendence of subject and object is fundamental in the organic paradigm. The transcendence of the subject is activated by its autonomy to decide in the immediacy of concrescence what it will be. In its satisfaction and its self enjoyment, it transcends its givens. Contrary to dualistic assumptions, in mutual transcendence the subject is autonomous, but not independent. It is conditioned by the object, which also partakes of transcendence. The transcendence of the object occurs in three senses.

1. The locus of feeling of the object is not present in the locus of feeling of the subject.

2. The object is not prehended in its complete internal constitution.

3. No aspect of the object is felt by the subject with the same subjective immediacy.¹⁷⁴

Thus, in mutual transcendence "the object does not depend for its existence on the subject, nor ... is the subject just a 'pile' of objects."¹⁷⁵ Further, transcendence within the organic paradigm becomes even more nuanced as the superjective functioning of the subject accents its very transcendence of itself. The ultimate push of the creative advance means that each occasion is both transcendent and transcended.

Mind and Body Dualism

Whitehead's response to the mind-body dualism resides most explicitly within his exploration of perception. With one exception the following discussion will explicate the organic paradigm's theory of perception and how it fundamentally negates the dualistic presuppositions of mind and body. The one exception is a brief focus upon mental and physical prehensions and their function in forging an anti-dualistic actuality. As the discussion then turns to the theory of perception, the tensions of mind and body will become more denotative of the mentality and physicality of the general terms, mind and body.

Mental and physical prehensions function within each actual occasion. Whitehead averts any tendency toward their dualistic functioning by positing the necessity of their interlocked configuration. That configuration is evidenced in two metaphysical contentions. One, all conceptuality or

consciousness, contrary to what it seems, is in reality the consequence of both physical and mental prehensions. Mind as conscious intelligence cannot function without physical prehensions.

According to the philosophy of organism, a pure concept does not involve consciousness, at least in our human experience. Consciousness arises when a synthetic feeling integrates physical and conceptual feelings. Traditional philosophy in its account of conscious perception has exclusively fixed attention on its pure conceptual side; and thereby has made difficulties for itself in the theory of knowledge.... Physical feelings form the non-conceptual element in our awareness of nature. Also, all awareness, even awareness of concepts, requires at least the synthesis of physical feelings with conceptual feeling.¹⁷⁶

In dualistic mind-body relations, consciousness is indicative of the mind's presence and reality. But in the organic paradigm, consciousness signals the fundamental synthesis of mental and physical prehension.

Two, physical prehensions are primarily hybrid prehensions, prehensions of the physical and mental feelings of a past actual occasion. In fact, Whitehead contends that all conceptual feelings are derived from physical feelings.

The disastrous separation of body and mind, characteristic of philosophical systems which are in any important respect derived from Cartesianism, is avoided in the philosophy of organism by the doctrine of hybrid physical feelings and of the transmuted feelings. In these ways conceptual feelings pass into the category of physical feelings. Also conversely, physical feelings give rise to conceptual feelings.¹⁷⁷

This premise is radicalized as Whitehead abolishes the Category of Reversion so that even novelty, which had before

originated in the conceptual pole, is now derived from the physical pole through the hybrid feeling of God. No mentality arises outside of the physical pole and its hybrid prehensions.¹⁷⁸ By virtue of the essential role of hybrid prehensions in originating and transmitting both mental and physical routes of occasions, all dualistic separation of the two is made metaphysically impossible.

The theory of perception delineated by Whitehead is a salient core of his stand against the dualism of mind and body. Whitehead asserts the theory both through deconstructive and constructive arguments. In his deconstructive argument, Whitehead critiques the traditional theory of sense perception. In his constructive argument, he posits an alternative which counteracts the inherent dualisms of the traditional theory.

The sensationalist theory of perception attributes all perception to the sense experience mediated by the bodily sense organs. The most basic and primitive experience is attributed to sense impressions and from it all other insights and perception are derived. Whitehead passionately critiques this epistemological posture.

During many generations there has been an attempt to explain our ultimate insights as merely interpretive of sense impressions.... I suggest to you that this basis for philosophic understanding is analogous to an endeavour to elucidate the sociology of modern civilization as wholly derivative from the traffic signals on the main roads. The motions of the cars are conditioned by

these signals. But the signals are not the reasons for the traffic.¹⁷⁹

The "reason for the traffic" is a deeper reason; the reason for sense impressions must be found in a more primitive or original process. Whitehead asserts that more primitive than "sense perception" is "sense reception."¹⁸⁰ Traditional sense perception theory focuses upon the prominent and definite data presented through the senses and omits the more fundamental activity of molecules and sub-sensory events. Such focus belies the true fact: sense perception is secondary and derivative, belonging to the superficialities of perception.¹⁸¹ The explication of perception must be anchored in a deeper and more comprehensive analysis of experience.

In constructing a wider and more comprehensive theory of perception Whitehead yokes sensory perception with non-sensuous perception. Two modes of perception interplay within his theory. The mode of presentational immediacy explicates the perception of the sense impressions; the mode of causal efficacy explicates the role of the body in perception. Through causal efficacy non-sensuous perception is authenticated and the role of perception below the level of the senses is given axiomatic status. Whitehead's alternative theory of perception endows the organic paradigm with three pillars which function to counter the mind-body dualistic evocations of sense perception theories.

The first pillar in Whitehead's theory of perception which counters dualistic assumptions is the primacy of the body through the mode of causal efficacy. In traditional sense perception theory, perception of secondary qualities (e.g., color, taste, etc.) is to be accounted for by the mind. Bracketing out the body, sense perception theory posits that such secondary qualities are not resident in the underlying substance, nor does the body itself have more than a secondary role in perceiving them. Whitehead passionately denies this premise, and asserts repeatedly that the root of all perception is the "withness of the body."¹⁸² We see with our eyes; we taste with our palate. Whitehead's critique of Cartesian perception theory abrogates the dualistic truncation of the body in perception.

As to the direct knowledge of the actual world as a datum for the immediacy of feeling, we first refer to Descartes in Meditation I, "These hands and this body are mine"; also to Hume in his many assertions of the type, we see with out eyes. Such statements witness to direct knowledge of the antecedent functioning of the body in sense-perception. Both agree ... that sense-perception of the contemporary world is accompanied by perception of the 'withness' of the body. It is this withness that makes the body the starting point for our knowledge of the circumambient world. We find here our direct knowledge of 'causal efficacy.' Hume and Descartes in their theory of direct perceptive knowledge dropped out this withness of the body; and thus confined perception to presentational immediacy.... But we must--to avoid 'solipsism of the present moment'--include in direct perception something more than presentational immediacy. For the organic theory, the most primitive perception is 'feeling the body as functioning.'¹⁸³

Thus, it is not the ego which sees, nor the mind which sees, but the eye which sees. Further, the Cartesian focus upon presentational immediacy accents the images which are seen as fundamental for perception, omitting the antecedent and necessary role of the body in such perception. Those images are not derived from the mind, but from the body.

[T]he world for me is nothing else than how the functionings of my body present it for my experience. The world is thus wholly to be discerned within those functionings. Knowledge of the world is nothing else than an analysis of the functionings.¹⁸⁴

In contrast to traditional sense perception theories, Whitehead anchored causal efficacy in the direct perception of the body as efficacious. Noting that the schools of Hume and Kant admit causal efficacy as a factor in perception but find it "to be the importation, into the data, of a way of thinking or judging" about the data, Whitehead appraised causal efficacy to be a direct perception, in the sense that it is "antecedent to thought about it."¹⁸⁵ Further, causal efficacy bears the experience of conformation and causation as perception is essentially derived from the perceiver's environment. Such conformation and causation explicitly evidence this antecedent role of the body and/or physical prehension in all perception. In reflection upon our experience, we know this moment to be derived from the previous moment, this pain from that falling lamp. Thus, while some causal efficacious perceptions remain implicit,

they are not exclusively bounded by implicit presuppositions, only to be perceived through the mind. Rather, they can be directly and explicitly perceived as the body imposing its character on experience.

The establishment of the primacy of the body through causal efficacy could function merely to shift the dualistic proclivity of the traditional sense perception theory from mind to body, and engender a "passive" mind, were it not for Whitehead's second pillar.¹⁸⁶ The second pillar in the organic paradigm which counters the dualism of mind and body embedded in sensationalism is the mode of symbolic reference. In perception the two pure modes of presentational immediacy and causal efficacy become linked and constitute the mode of symbolic reference. Causal efficacy enters into perceptive experience in the first phase of concrescence, the responsive phase; its primacy as the starting point frames perception as initially sense reception. Presentational immediacy enters during the supplemental phase; it emerges as an outgrowth from causal efficacy and functions as enhancement of the causal efficacious data. While causal efficacy is more primitive and basic than presentational immediacy, both are required for human perceptive experience.

Presentational immediacy is the enhancement of the importance of relationships which were already in the datum, vaguely and with slight relevance. This fact, that 'presentational immediacy' deals with the same datum as does 'causal efficacy,' gives the ultimate reason why there is a common 'ground' for 'symbolic reference.' The two modes express the

same datum under different proportions of
relevance.¹⁸⁷ (emphasis added)

In the organic paradigm causal efficacy and presentational immediacy are referent to common ground and become synthesized in the mode of symbolic reference within one prehensive unification. Thus, the dualism of body and mind engendered by the sense perception theory's of perceptive images derived from the mind is repudiated.

While Descartes located error in the functioning of delusionary senses and their concomitant sense organs, Whitehead situates error in the mixed mode of symbolic reference. Error is a construct of the originative freedom and interpretation which inheres in symbolic reference, a freedom which is not part of the prior sense receptive processes of causal efficacy and presentational immediacy. In either pure mode no error is possible, but in the interplay of the two the possibility of error arises.¹⁸⁸ Thus, in the organic paradigm, as error is not an exclusive function of body, the Cartesian anti-body rhetoric is negated as metaphysically inaccurate. Further, since the possibility of error is commensurate with symbolic reference, the same perceptive mode which makes possible higher forms of organic life, error is not to be inherently denigrated. Only in lower forms of life, where presentational immediacy and novelty are minimal, is error precluded. In the organic paradigm the

purity of an error-free state is so reductionistic it becomes life-defeating.

The third pillar in Whitehead's theory of perception which counters the mind-body dualism of sense-perception theories is the pillar of non-sensuous perception. The reductionistic premise of sense-perception theories that the five sense organs constitute the primary perceptive means is explicitly denied in the organic paradigm. "The living organ of experience is the living body as a whole" (emphasis added).¹⁸⁹ Whitehead explicates non-sensuous perception not by denying the veracity of sense perception, but by calling into question its wholeness and its primacy. Sense perception limits perception to narrow bands of experience. In the overcoming of this reductionism Whitehead advocates that no experience can be omitted, "experience drunk and experience sober, experience sleeping and experience waking, ... experience self-conscious and experience self-forgetful, experience intellectual and experience physical, experience religious and experience sceptical, ... experience normal and experience abnormal."¹⁹⁰

The inclusion of non-sensuous perception through the mode of causal efficacy implants vagueness within Whitehead's theory of perception. While presentational immediacy engenders clear, distinct, and controllable perceptions, causal efficacy "produces percepta which are vague, not to be controlled, heavy with emotion."¹⁹¹ In contrast to the

Cartesian elevation of clear and distinct ideas, ideas upon which certainty can be built, Whitehead posits that the wholeness of experience, with its rootage in non-sensuous perception, harbingers no such clarity.

[The conventional view of experience] conceives conscious experience as a clear-cut knowledge of clear-cut items with clear-cut connections with each other. This is the conception of a trim, tidy, finite experience uniformly illuminated. No notion could be further from the truth. In the first place the equating of experience with clarity of knowledge is against the evidence. In our own lives, and at any one moment, there is a focus of attention, a few items in clarity of awareness, but interconnected vaguely and yet insistently with other items in dim apprehension, and this dimness shading off imperceptibly into indiscriminated feeling. Further, the clarity cannot be segregated from the vagueness. The togetherness of the things that are clear refuses to yield its secret to clear analytic intuition. The whole forms a system, but when we set out to describe the system direct intuition plays us false.¹⁹²

The clarity and distinctness of Cartesian epistemological dualism is elicited at the expense of metaphysical wholeness, specifically by the omission of causal efficacy. The metaphysical reality of vagueness is thereby masked. In the organic paradigm, the causal efficacious role of the body is interlocked with the presentational immediacy of the mind so that perception displays, in Victor Lowe's words, both a "rough world and a smooth world."¹⁹³ Knowing is metaphysically grounded in a world whose clear perceptive appearances are intimations of dim and vague reality. Such a theory of perception stands as a decisive repudiation of Cartesian

culture. Its import is incisively articulated in the critique of modern culture by Donald Oliver and Kathleen Gershman.

Such a culture, which embraces only the more superficial aspects of knowing -- using only our senses and rational logic -- and which denies any experiential connection to a more fundamental ground leads us to the arrogance of assuming that vagueness or ambiguity or contradiction simply reveal flaws in the logical construction of our theories rather than mysteries that transcend or lie beneath this simplistic quality of knowing.¹⁹⁴

Reason-Affect Dualism

Whitehead's response to the tensions of reason and affect within human experience is not as detailed as his response to the tensions of the other two dualisms. Before examining two major responses embedded in the organic paradigm this discussion needs to make explicit the definitions operative in the analysis. Reason is not to be equated with mental in Whitehead's thought. Rather, reason denotes intellectual, and in some instances, logical thought, which is only one form of mentality. Intellectual feelings emerge in the fourth phase of concrescence and thus, mentality is at a high level before reason appears.¹⁹⁵ Affect denotes emotion and its form of energy which is embedded within concrescence. Feeling is a technical term used by Whitehead and is not synonymous with emotion, although, as will be explicated later, it does have an emotional quality.

The organic paradigm responds to the reason-affect dualism through two conduits. In Cartesian epistemology, the role of reason in veridicality is validated while the role of

affect is rendered dubious. For Descartes reason as the *sine qua non* of clear and distinct ideas is the axle of understanding; emotion is an energy which primarily functions to confuse and obscure understanding. In organic epistemology, the two conduits carry throughout the paradigm a quality which effectively shifts this Cartesian epistemological posture toward reason and affect.

The first conduit is the intrinsic and essential presence of emotion in all being. All concrescences emerge from the qualification of emotion which clothes the mode of causal efficacy. Linking emotion with causal efficacy, Whitehead finds emotion to denote a type of energy which resides at the base of every concrescence, from the simplest to the most complex actuality.

[P]hysical feelings are always derived from some antecedent experient. Occasion B prehends occasion A as an antecedent subject experiencing a *sensum* with emotional intensity. Also B's subjective form of emotion is conformed to A's subjective form. Thus there is a vector transmission of emotional feeling of a *sensum* from A to B. In this way B feels the *sensum* as derived from A and feels it with an emotional form also derived from A. This is the most primitive form of the feeling of causal efficacy. In physics it is the transmission of a form of energy.¹⁹⁶

Prehension is predicated upon emotion. Thus, as Whitehead recasts the Cartesian axiom "I think, therefore I am" to "Iprehend, therefore I am,"¹⁹⁷ decisively shifting the essence of being from thought to the broader category of prehension, he reverses much of the Cartesian elevation of reason and

denigration of emotion. For Whitehead, emotion is the sin qua non of actuality.

The primacy of emotion in prehension has a dual tone for Whitehead. First, it sounds the fundamental tone of self enjoyment which is resident within all actual occasions. Experience equates self valuation, the emotion of "self enjoyment of being one among many."¹⁹⁸ Second, it sounds the fundamental tone of sympathy or, in the Quaker's word, of "concern," by which all prehension is understood. Given the essential ontological nature of relationships within prehensive unification, all actuality is predicated upon concern or sympathy.

It must be distinctly understood that no prehension, even of bare sense, can be divested of its affective tone, that is to say, of its character of a 'concern' in the Quaker sense. Concernedness is of the essence of perception.¹⁹⁹

.
The primitive form of physical experience is emotional--blind--emotion--received as felt elsewhere in another occasion and conformally appropriated as a subjective passion. In the language appropriate to the higher stages of experience, the primitive element is sympathy, that is, feeling the feeling in another and feeling conformally with another.... Thus the primitive experience is emotional feeling.²⁰⁰

This concern, this sympathy constitutes an emotional feeling which denotes the relationship by which a subject orients toward and prehends objects outside of itself. Thus, Whitehead speaks of "enjoying the green foliage greenly," or seeing the red cloak by a "feeling of red irritation."²⁰¹ Given

these two fundamental tones of self enjoyment and concern, which are essentially present in all prehension, the epistemological relation of reason and emotion portrays emotion as the quality which underlies and shapes all reason.

The conduit of the intrinsic and essential presence of emotion in all being is often described by Whitehead in terms of the subjective form, a primary factor in the concrescing process. However, Whitehead's description of the relationship of emotion to subjective form is ambiguous. On the one hand, Whitehead explicitly notes that subjective form is not synonymous with emotion, but that emotion is only one subjective form. In Category XIII he says: "There are many species of subjective forms, such as emotions, valuations, purposes, adversions, aversions, consciousness, etc."²⁰² On the other hand, Whitehead often equates the two, delineating subjective form as an emotional response to the datum. In the midst of discussing positive and negative prehensions he says:

For each negative prehension has its own subjective form, however trivial and faint. It adds to the emotional complex, though not to the objective data. The emotional complex is the subjective form of the final 'satisfaction'.... [T]he negative prehension of an entity is a positive fact with its emotional subjective form.²⁰³ (emphasis added)

Further, such categories as "valuations," "purposes," "adversions" and "aversions," definitively distinct from emotions in Category XIII, become linguistically framed as emotions elsewhere, specifically the emotions of hope, fear, hatred, eagerness, pleasure, etc.²⁰⁴ Whether or not Whitehead

intends to equate subjective form with emotion, his rhetoric leads to their very close identification. Subjective form thus intensifies the intrinsic nature of emotion in all actuality.

A second conduit through which the organic paradigm responds to issues embedded in the reason-affect dualism is the conduit of the aesthetic. In many ways the organic paradigm shifts the reason-affect dualism to a larger plane upon which reason and affect become subsumed into the issues of coherence and order. The coherence and order which embraces them, however, is fundamentally aesthetic.

The metaphysical doctrine, here expounded, finds the foundations of the world in the aesthetic experience, rather than--as with Kant--in the cognitive and conceptive experience. All order is therefore aesthetic order, and the moral order is merely certain aspects of aesthetic order. The actual world is the outcome of the aesthetic order, and aesthetic order is derived from the immanence of God.²⁰⁵

Aesthetic experience denotes "contrast under identity,"²⁰⁶ the holding of contrasts in a synthetic pattern. Such coherence characterizes all rational thought and affective experience.

Aesthetic order and coherence unmask the false dualism between reason and emotion. Both are drawn into the activity of discerning the order relevant to each experience. Rationality, as exemplified in mathematics, now becomes the search for and appreciation of patterned order and relationships. Emotion becomes the means of appropriating such patterns. Incoherence in this view of rationality

indicates not logical disorder but abstraction from the synthetic pattern. Thus, the discernment of the "fitness of things, "the harmonious ideal, undergirds all rational and emotional perception.²⁰⁷ Rational and emotional experience become caught up in the teleology of aesthetic achievement as the creative advance partakes of such order.²⁰⁸ Such aesthetic order calls into question all epistemological claims to certainty and validates the partiality and beauty of the process. Ralph Norman incisively summarizes it this way:

What [Whitehead] has done is to deny that mystery and coherence are mutually exclusive. Significant mystery always testifies to the impingement upon our segmented commonplaces of a kind of order which the familiar coherences imperfectly but perhaps analogously reflect. The hallmark of order, being aesthetically defined, is the pattern of things. Our specific systems, whether logical, moral, or aesthetic, are echoes and diminutives. If one of the echoes be taken as the criterion of order, mystery is then genuinely dispelled and the natural frame of meaning twisted out of proportion. The so-called mystery which springs into view is but another name for irrationality, and can be said to exclude reason only because a truncated notion of reason is here in use. There is a rationalism of another sort, which Whitehead holds to be the ultimate premise of all philosophy, all science, all religion-- "trust that the ultimate natures of things lie together in a harmony which excludes mere arbitrariness." (Science and the Modern World, 27)²⁰⁹

Conclusion

The organic paradigm formulated through Whitehead's insights into experience and actuality, into process and reality, offers a dynamic vision for an epistemology of faith. This vision will be drawn upon extensively in the subsequent chapter delineating such an epistemology. But throughout the

search for adequate metaphysical and epistemological grounding such discussions as these must always hold close to the caveat:

The task of reason is to fathom the deeper depths of the many-sidedness of things. We must not expect simple answers to far-reaching questions. However far our gaze penetrates, there are always heights beyond which block our vision.²¹⁰

For philosophy and the spiritual quest "begin in wonder" and "at the end, when [they] have done their best, the wonder remains."²¹¹

NOTES

Chapter 3

¹ Brian P. Hendley, Dewey, Russell, Whitehead: Philosophers as Educators (Carbondale: Southern Illinois University Press, 1986), 75.

² Ann L. Plamondon, Whitehead's Organic Philosophy of Science (Albany: State University of New York Press, 1979), 1. (See endnote 8 of this chapter, for reference to Whitehead's almost anti-metaphysical posture during this period.)

³ Hendley, 80.

⁴ Whitehead, Religion in the Making, 60.

⁵ Brumbaugh, Whitehead, Process Philosophy, and Education, 1.

⁶ Alfred N. Whitehead, Process and Reality, eds. David R. Griffin and Donald W. Sherburne (New York: Free Press, 1978), 94.

⁷ Whitehead, Process and Reality, 189.

⁸ Whitehead did not always embrace a metaphysical methodology. In Concept of Nature his growing emphasis upon "Nature Closed to Mind" (see discussion on Reformed Subjectivist Principle in the Overcoming Dualism section, pp. 171-75) led him to denigrate the role of metaphysics. At one point he comments: "I emphasize this point because discussions on the philosophy of science are usually extremely metaphysical--in my opinion to the great detriment of the subject. The recourse to metaphysics is like throwing a match into the power magazine. It blows up the whole arena. This is exactly what scientific philosophers do when they are driven into a corner and convicted of incoherence. They at once drag in the mind and talk of entities in the mind or out of the mind as the case may be. For natural philosophy everything perceived is in nature. We may not pick and

choose." Concept of Nature (Cambridge: Cambridge University Press, 1920), 29.

⁹ Alfred N. Whitehead, Adventures of Ideas (New York: Macmillan Co., 1933), 18.

¹⁰ See Whitehead, Process and Reality, 19, 24. "Actual entity" is defined by Whitehead as an occasion of experience. See the following discussion on the organic and processive characteristic of Whitehead's paradigm.

¹¹ Cited in William E. Hocking, "Whitehead as I Knew Him," Alfred North Whitehead: Essays on His Philosophy, ed. George L. Kline (Englewood Cliffs, N.J.: Prentice-Hall, 1963), 8.

¹² Whitehead anchors experience in the becoming of actual entities. Since actual entities are not limited to humans, Whitehead's philosophical category of experience functions in all nature, both human and physical. Further, experience is not always conscious. It becomes conscious only in higher life forms and even then only in some instances. It is through this very definition of experience that Whitehead strikes a strident chord in the overcoming of the mind and nature dualism and its incipient solipsism. (See that section in this dissertation, p. 188.)

¹³ References in these sentences are taken from Process and Reality, 8-10, with the exception of the "school of experience" metaphor which Whitehead uses in Religion in the Making, 141. John Dewey argues that while Whitehead labels his methodology rationalism, it is not congruent with that historic philosophical school. For rationalism is "concerned not with descriptive generalization, but ultimately with a priori generalities from which the matter of experience can itself be derived." Thus, Dewey argues, an empiricist finds great congruence with Whitehead's methodology. John Dewey, "Whitehead's Philosophy," Philosophical Review 44 (March 1937): 170.

¹⁴ Whitehead, Process and Reality, 12, 17. See Victor Lowe for a helpful explication of the distinction between the methodology of Whitehead's and Aristotle's empiricism. In what Lowe calls "empirical metaphysics," Aristotle looks at each individual actuality without speculating as to "the whole," with the methodological assumption that it offers something given, but not something to be conceived. Therefore, Aristotle is unable to derive generic ideas from individual experience. Whitehead, on the other hand, in what Lowe calls a "speculative metaphysics of experience," uses the methodological posture of speculative conception by which each individual experience offers more than is observed; it offers something to be conceived, speculated upon. Victor Lowe,

Understanding Whitehead (Baltimore: Johns Hopkins University Press, 1962), 331.

15 Whitehead, Process and Reality, 159.

16 See Alfred N. Whitehead, Science and the Modern World (New York: Macmillan Co., 1925), 48-50; Alfred N. Whitehead, Modes of Thought (New York: Macmillan Co., 1938), 128-32; Process and Reality, 78-79; and Concept of Nature, 141.

17 Whitehead, Modes of Thought, 132.

18 Elizabeth Kraus, The Metaphysics of Experience: A Companion to Whitehead's Process and Reality (New York: Fordham University Press, 1979), 2.

19 Whitehead, Concept of Nature, 141. See also Process and Reality, 79.

20 Whitehead, Science and the Modern World, 157.

21 Whitehead, Process and Reality, 309. See also Science and the Modern World, 75, 79-80; and Modes of Thought, 136-37.

22 R. Kirby Godsey, "Relation and Substance in Whitehead's Metaphysics," Tulane Studies in Philosophy 24 (1975): 15.

23 See Godsey, 15.

24 Lowe, 16.

25 Whitehead, Process and Reality, 208.

26 Whitehead, Process and Reality, 208.

27 Dewey, "Whitehead's Philosophy," 171.

28 Whitehead, Modes of Thought, 46.

29 Whitehead, Process and Reality, 228.

30 Cited in Hocking, 8. For a discussion of the process of transition see Whitehead, Science and the Modern World, 93; and Modes of Thought, 146. For a discussion of the correlation of transition with the categories of becoming and perishing see Process and Reality, 210; Modes of Thought, 89, 96; and Adventures of Ideas, 204.

31 Whitehead, Adventures of Ideas, 274-75.

32 Whitehead, Process and Reality, 84.

³³ See Whitehead, Science and the Modern World, 80, 107. In this work, the name "organic mechanism" poses a direct contrast to "materialistic mechanism" and correlates with Whitehead's discussion of the mechanistic organism of electrons, etc. See Lowe, 163. Plamondon notes: "these are the only two passages in which the term 'organic mechanism' occurs in [Science and the Modern World], and the term does not appear at all in subsequent works. Whitehead gives no explanation for dropping the term, but it would seem that a primary reason might be that the term 'mechanism' remained so closely associated with materialism...that 'organic mechanism' suggested, at first glance, a contradiction in terms." Plamondon, 41.

³⁴ See Plamondon's chapter on "Organism and Environment" for an incisive discussion of the tensions between the two doctrines. Her chart (pp. 146-47) of the corresponding theses in each doctrine is illuminative:

- M-1 Organisms are not more than the sum of their physico-chemical parts.
- M-2 The understanding of an organism can be achieved (in principle) by a full understanding of the physico-chemical parts of the organism.
- M-3 The physico-chemical parts determine the nature of the organism.
- M-4 Organisms can be adequately studied by analytical methods.

- O-1 Organisms are more than the sums of their physico-chemical parts.
- O-2 The understanding of an organism cannot be achieved by a full understanding of its physico-chemical parts in isolation from the organism.
- O-3 The organism determines the nature of its physico-chemical parts.
- O-4 The complexity and hierarichial organization of organisms precludes an adequate understanding by analytical methods.

³⁵ See Whitehead, Process and Reality, 215; and Science and the Modern World, 110. Whitehead discerns the various types of organisms to be a "hierarchy of organisms" characterized by gradation of organic unity. See Modes of Thought, 27-28. See also Code's comprehensive discussion of Whitehead's theory of primates within this hierarchy of organisms. Murray Code, Order and Organism: Steps to a Whiteheadian Philosophy of Mathematics and the Natural Sciences (Albany: State University of New York Press, 1985), 137-42.

³⁶ Alfred N. Whitehead, An Enquiry Concerning the Principles of Natural Knowledge (Cambridge: University Press, 1919), 3.

³⁷ Plamondon offers a probing analysis of the distinctions in Whitehead's discussion of what it means to be living. In Science and the Modern World Whitehead uses "organism" in the more general sense of "living organism" inclusive of both physical and biological entities. In Process and Reality and Adventures of Ideas his discussion points to a very specific definition of "living," bounded by criteria of novelty, environment, and requirement of food. See Plamondon, 44-45.

³⁸ Code, 129.

³⁹ Whitehead, Science and the Modern World, 79-80. See also Science and the Modern World, 107, for Whitehead's application of this theory to the life history of entities. In Process and Reality Whitehead concisely notes: "If you abolish the whole, you abolish its parts; and if you abolish any part, then that whole is abolished." Process and Reality, 288. The relationship of part to whole and the concept of the whole as not an aggregate, not a summation of parts, is also discussed later. See the Prehensive and Rhythmic Unity Section in this chapter of this dissertation, pp. 156-62.

⁴⁰ Kraus, 26.

⁴¹ The phrase is Lowe's. See Lowe, 41.

⁴² In Process and Reality Whitehead drops the term "event" and uses "actual occasion" or "actual entity." In the earlier development of the philosophy (Concept of Nature, Principles of Natural Knowledge) Whitehead focuses upon explicating the distinction between "event" and "object." In Science and the Modern World the discussion names these categories "event" and "eternal object."

⁴³ Martin Jordan, New Shapes of Reality: Aspects of A. N. Whitehead's Philosophy (London: George Allen & Unwin, 1968), 48.

⁴⁴ Whitehead, Science and the Modern World, 151.

⁴⁵ See Whitehead, Process and Reality, 68, 41.

⁴⁶ Whitehead, Concept of Nature, 74. On page 78 of Concept of Nature Whitehead notes "something is always going on everywhere, even in so-called empty space."

⁴⁷ Jordan, 30.

⁴⁸ A. O. Lovejoy, The Revolt against Dualism (La Salle, Illinois: Open Court, 1955), 15, cited in Code, 129-30. In the footnote on p. 229 Code gives the full quote from Lovejoy to be: "The human animal ... does not for the most part live where its body is -- if an organism's life is made up of what it really experiences; it lives where the things are of which it is aware, upon which its attention and feeling are directed."

⁴⁹ Whitehead, Science and the Modern World, 91. See also Science and the Modern World, 51, 58; and Modes of Thought, 139.

⁵⁰ In his earlier works Whitehead discerned the process of events in terms of extension. See Principles of Natural Knowledge, 61; and Concept of Nature, 185-86. In Process and Reality, however, he anchors the process of events in concrescence. In the process of concrescence extension is derivative rather than primary.

⁵¹ Paul F. Schmidt, Perception and Cosmology in Whitehead's Philosophy (New Brunswick: Rutgers University Press, 1967), 102. See Process and Reality, 26, for Category XXVII.

⁵² Whitehead, Adventures of Ideas, 236. Whitehead explains here that concrescence is derivative from the Latin verb, meaning "growing together."

⁵³ Dorothy Emmet, Whitehead's Philosophy of Organism, 2nd ed. (New York: St. Martin's Press, 1966), 274. See Oliver and Gershman for a provocative distinction between growth as "improvement" (which presupposes a deficiency and external judgment) and growth as "movement" (which presupposes the internal urge to advance into novelty). Oliver and Gershman posit this distinction as pivotal for educational theory. Oliver and Gershman, Education, Modernity, and Fractured Meaning, 166.

⁵⁴ See Whitehead, Process and Reality, 219, 23. On the concept of "becomingness" see Process and Reality, 28; and Science and the Modern World, 175. For a discerning explication of the temporal character of this process see Code, 130-33.

⁵⁵ Kraus, 3. See also Process and Reality, 28, 80.

⁵⁶ Whitehead, Process and Reality, 21.

⁵⁷ Charles Hartshorne, "Whitehead's Novel Intuition," Alfred North Whitehead: Essays on His Philosophy, ed. George L. Kline, 20. See also Dewey, "Whitehead's Philosophy," 171.

Whitehead makes this explicit in Modes of Thought, 87-88: "The essence of life is to be found in the frustrations of established order. The Universe refuses the deadening influence of complete conformity." In The Organization of Thought Whitehead extends this denigration of conformity to education. Here he promulgates the belief that inert ideas, ideas passively received without any fresh combinations, are not only useless, but harmful in education. They lead to "mental dry rot." Alfred N. Whitehead, The Organization of Thought (Westport, Conn.: Greenwood Press, 1974), 4-5.

58 The concept of "living beyond" comes from Oliver and Gershman's discussion of creativity. They cite its original source to be Rollo May's concept of creativity as a struggle, rooted in a "passion to live beyond." Oliver and Gershman, 129.

59 Since "apprehension" suggests consciousness, Whitehead dropped the "ap" and names this implementing process of concrescence, prehension. See Science and the Modern World, 69. Kraus insightfully notes the linguistic problem of "apprehension." Linguistically, it "indicates a subject to (ad) which the object is united as a result of the activity of seizing (prehendere), a notion foreign to Whitehead's insight." Kraus, 68.

60 In the genetic analysis of prehension, Whitehead explicates the process to be inclusive of the four stages, datum, process, satisfaction, and decision (Process and Reality, 150), or of the two broad processes of responsive and supplemental (Process and Reality, 212). Prehension is further analyzed by Whitehead through the description of the place and role of the five factors in a feeling, or positive prehension: (1) the "subject" which feels; (2) the "initial data" to be felt; (3) the "elimination" of some data; (4) the "objective datum" which is felt; and (5) the "subjective form" (Process and Reality, 221). See also Process and Reality, 153-55, 219-28.

61 Whitehead, Process and Reality, 50.

62 William P. Alston, "Internal Relatedness and Pluralism in Whitehead," Review of Metaphysics 5 (June 1952): 539.

63 Whitehead, Concept of Nature, 143-44. Here Whitehead speaks, as was true in other early writings, of actual entities as "events" and eternal objects as "objects." See also Process and Reality, 39-40, for an additional statement of the concept of ingression and its application to all past actual entities as well as eternal objects.

⁶⁴ Whitehead, Process and Reality, 231. See also Science and the Modern World, 104, 123, 160; and Adventures of Ideas, 113.

⁶⁵ Godsey, 12-13.

⁶⁶ Whitehead, Science and the Modern World, 107. See also Plamondon for a fine summary of Whitehead's discussion in Science and the Modern World on materialism and evolutionary thought. Plamondon, 64-65.

⁶⁷ Whitehead, Science and the Modern World, 122-23. See also Alfred N. Whitehead, The Aims of Education (New York: Macmillan Co., 1929), 164; Principles of Natural Knowledge, 4, 25-26; and Concept of Nature, 78, 168.

⁶⁸ Emmet, xxiv (emphasis added).

⁶⁹ Whitehead, Process and Reality, 309. See also Hartshorne, 19.

⁷⁰ Whitehead, Process and Reality, 193. See also Process and Reality, 68, 200, 210; and Modes of Thought, 66.

⁷¹ See Whitehead, Science and the Modern World, 69-70.

⁷² Whitehead, Process and Reality, 284. The mediation of all conceptual feelings by physical feelings will be discussed later in the section on dualisms (see pp. 189-90).

⁷³ Whitehead, Process and Reality, 11. See also Modes of Thought, 43, 58.

⁷⁴ Code, 10.

⁷⁵ Lowe, 40. Richard Rorty has offered a penetrating analysis of Whitehead's definitions of subject and object. Rorty analyzes the definitions as a move on the part of Whitehead to escape the horns of the epistemological dilemma of the "unrepeatable entity." The dilemma is engendered by the holding in tandem of the substance-property framework, wherein substances are unrepeatable and their properties are repeatable, and the subjectivist principle, wherein all that is experienced, but unrepeatables cannot be experienced. Thus, substances do not exist. Rorty posits that Whitehead slipped through the horns of this dilemma by a reinterpretation of the notion of an "unrepeatable particular." Rorty, "The Subjectivist Principle and the Linguistic Turn," Alfred North Whitehead: Essays on His Philosophy, ed. George L. Kline, 134-41. See the following discussion on the subject-predicate issues on p. 163 and the Reformed Subjectivist Principle on p. 169.

⁷⁶ Rasvihary Das, The Philosophy of Whitehead (New York: Russell & Russell, 1964), 100-01.

⁷⁷ Whitehead, Process and Reality, 219-20.

⁷⁸ Whitehead, Adventures of Ideas, 180. In her argument on objective immortality and its role in subjective immortality, Marjorie Suchocki posits that objectification implicitly denotes that its givenness is received only partially by the subject. See Suchocki, The End of Evil (Albany: State University of New York Press, 1988), 91. Her point is well taken. However, while it must be affirmed that in the subject-object relation partial, and not total, prehension of the subject must be the case in order for total repetition to be avoided, still the definitive nature of object is only that it be given to subject as an actual entity in full satisfaction.

⁷⁹ See Whitehead, Process and Reality, 23, 44-45, 142, 225, 231. In one of his footnotes, Lowe says that Whitehead privately regretted using this language of "mental" and "physical" since so many thought the terms referred to substantially separate parts of an actual occasion. See Lowe, 43.

⁸⁰ In Adventures of Ideas Whitehead closes his chapter on "Subjects and Objects" by summarizing the philosophy of organism as a type of dualism. The duality of the universe manifested in physical and mental, actual and potential, immediacy and otherness, unity and multiplicity, is such that "there reigns the union of opposites which is the ground of dualism." Adventures of Ideas, 190. A. H. Johnson convincingly argues that this dualism is not the traditional dualism of "exclusiveness of substances based on mutual independence." See Johnson, Whitehead's Theory of Reality (New York: Dover Publications, 1962), 168. This paper concurs and argues that the duality of the organic paradigm does not constitute nor necessitate dualism, but does, in fact, fundamentally and decisively negate it.

⁸¹ Reiner Wiehl, "Whitehead's Cosmology of Feeling," Whitehead's Metaphysics of Creativity, eds. Friedrich Rapp and Reiner Wiehl (Albany: State University of New York Press, 1990), 140.

⁸² Kraus, 1. See Process and Reality, 7-8, 18; and Science and the Modern World, 50-51, 58.

⁸³ Whitehead, Process and Reality, 21-22.

⁸⁴ Whitehead, Concept of Nature, 171, cited in James W. Felt, "Whitehead and the Bifurcation of Nature," Modern Schoolman 44 (May 1968): 293.

⁸⁵ Whitehead, Adventures of Ideas, 190. See also Modes of Thought, 89.

⁸⁶ See Process and Reality, 6, where Whitehead critiques Descartes as being too abstract to penetrate nature. In Science and the Modern World Whitehead explicitly names the mind-body dualism as rooted in Simple Location (Fallacy of Misplaced Concreteness). See Science and the Modern World, 55. He later names it as abstraction. See Science and the Modern World, 67. For Whitehead's critique of abstractions see Modes of Thought, 89, 138, 143; and Science and the Modern World, 87, 135, 197. Whitehead discusses mathematics as abstraction and offers commensurate cautions in Science and the Modern World, 21-22, 32.

⁸⁷ See Modes of Thought, 138-39, 149-50; The Aims of Education, 122; Adventures of Ideas, 112; Process and Reality, 59, 115; and Religion in the Making, 102-04.

⁸⁸ Kraus, 132. The phrase "connexity of the world" is Whitehead's. See Modes of Thought, 165. Whitehead's language is replete with this concept of necessary interdependence. The following is a linguistic sampling and is given with the assumption that linguistic frames are primary in reshaping paradigmatic world views: "interweaving" (Modes of Thought, 53); "interfusion of things" (Modes of Thought, 71); "intermingling" (Modes of Thought, 93); "requires each other" (Modes of Thought, 53, 69, 71, 97); "factor in the other" (Modes of Thought, 111, 164); "with reference to" (Modes of Thought, 139, and Religion in the Making, 89, 97); "require, influence and lead to each other" (Modes of Thought, 157); "patterned intertwining" (Process and Reality, 103); "interwoven natures of things" (Process and Reality, 190); "incurably intertwined" (Process and Reality, 317); "interlocked relations" (Science and the Modern World, 72); "actual fact is a fusion" (Religion in the Making, 150); "implants its aspects in" (Science and the Modern World, 150).

⁸⁹ See Oliver and Gershman, 148, 151. This complementarity describes even the relationship of God and the world, each ontologically needing the other. See also Process and Reality, 348-49.

⁹⁰ Alston, 537.

⁹¹ See Alston, 538, for an exploration of this congruence.

⁹² Whitehead, Modes of Thought, 164-65. Whitehead's discussion here can also be applied to the correspondence theory of knowledge (as is alluded to in the following quote). In dualism there is no metaphysical reason why one entity can be affirmed to correspond to another.

⁹³ Cited in Emmet, xxii-xxiii.

⁹⁴ Whitehead, Process and Reality, 148. See also the following for a discussion of gradation: Religion in the Making, 145, 146; and Science and the Modern World, 162, 175. In Process and Reality Whitehead explicates the functioning of gradation in the "conceptual ingression of eternal objects." Conceptual feelings are admitted or rejected in concrescence "by reason of [their] germaneness" to physical feelings. Eternal objects take their relevance from actual entities; their gradation is in response to physical data. Process and Reality, 86-87.

⁹⁵ Whitehead, Process and Reality, 110.

⁹⁶ Whitehead, Concept of Nature, 141-42. See the statement on pp. 129-30, citation 19, of this dissertation.

⁹⁷ Whitehead, Process and Reality, 327. See also Process and Reality, 90-91, 110, 206; Adventures of Ideas, 154; and Modes of Thought, 138, 161. Whitehead distinguishes two layers of environment vis-a-vis actual entities. One layer is the relevant background, the environment which has relevancy for objectification. The second layer is the remote and chaotic background which offers irrelevant triviality for the occasion. See Process and Reality, 112.

⁹⁸ See Modes of Thought, 138, for Whitehead's discussion on environment and endurance. See Process and Reality, 205-06, for the discussion on environment and induction. See Process and Reality, 206-07, for the summation of the principles of both.

⁹⁹ Plamondon, 46. Plamondon offers a probing analysis of environment within Whitehead's thought. See Plamondon, 46-51. Further, this correlative relationship becomes more nuanced when Whitehead makes a distinction between subordinate societies which can sustain themselves outside the environment and subordinate nexus which cannot sustain themselves outside the environment. See Process and Reality, 99-101.

¹⁰⁰ Whitehead, Process and Reality, 24.

¹⁰¹ Whitehead, Process and Reality, 211. For a pivotal articulation of actuality as unity and the process of concrescence as a unifying process see the whole page of 211,

as well as: Process and Reality, 154, 212, 283; and Science and the Modern World, 72.

102 Whitehead, Process and Reality, 287.

103 Kraus, 56.

104 Whitehead, Process and Reality, 200.

105 Nathaniel Lawrence, "Nature and the Educable Self in Whitehead," Educational Theory 15 (July 1965): 208.

106 Whitehead, Science and the Modern World, 72.

107 Whitehead, Process and Reality, 286.

108 Whitehead, Science and the Modern World, 64-65. See also John W. Blyth, Whitehead's Theory of Knowledge (Providence: Brown University, 1941), 12, 31.

109 While internally this premise stands as an axiom, its applicability to nexus and societies becomes relative to the complexity of the nexus and society and therein has graded reference.

110 Blyth, 31. See also p. 12.

111 Whitehead, Principles of Natural Knowledge, 198. See also Aims of Education, 17.

112 The primacy of pattern for Whitehead is nurtured by his rootage in mathematics. Whitehead discerns mathematics to be the "science of connections between things" (Science and the Modern World, 19), or more specifically, "the pattern of connectedness" (Adventures of Ideas, 153).

113 Jeffrey Stamps, Holonomy: A Human Systems Theory (Seaside, Calif.: Intersystems Publication, 1980), 46-47, cited in Oliver and Gershman, 152.

114 Kraus, 26. See also Plamondon and her discussion of how an organism is the opposite of an aggregate for "it is a unity in which the parts are modified according to the pattern of the whole." Plamondon, 67-68. Godsey speaks of this concept as a "dynamic monism." A "dynamic monism" differs from a "closed monism" in that the unity is not an aggregate but an emergent whole. Godsey, 21.

115 Whitehead, Science and the Modern World, 150. See the entire discussion, pp. 148-50.

116 Whitehead, Principle of Relativity, 13ff, cited in Lowe, 242. See Process and Reality, 30, 137, and 167, for the linkage of subject-predicate with substance-quality.

117 Lowe, 21.

118 Whitehead, Concept of Nature, 32. See also p. 185.

119 Whitehead, Concept of Nature, 45. See also Concept of Nature, 43-45, 67-68; Modes of Thought, 115, 150, 156; Adventures of Ideas, 78, 184-86. In Concept of Nature, 68-70, Whitehead does note that while mind does partake of nature as all other reality does, because of memory mind is not in time and space in the same sense in which are other parts of nature. In Process and Reality Whitehead notes that the "only one genus of actual entities" includes "God as well as the lowliest actual occasion." Process and Reality, 110.

120 Whitehead, Modes of Thought, 166.

121 Whitehead, Process and Reality, 289.

122 In Religion in the Making Whitehead notes that concrete actuality is dipolar but "the proportion of importance, as shared between the two poles may vary from negligibility to dominance of either pole" (p. 114).

123 Whitehead, Modes of Thought, 114. See also Modes of Thought, 115, 159-60; and Adventures of Ideas, 40. For a probing discussion of the body-mind interconnections and process thought see Penelope Washbourn, "The Dynamics of Female Experience: Process Models and Human Values," Feminism and Process Thought, ed. Sheila G. Davaney (New York: Edwin Mellen Press, 1981), 83-105.

124 Whitehead, Aims of Education, 116.

125 Whitehead, Process and Reality, 21.

126 Whitehead, Process and Reality, 150-51.

127 See Whitehead, Process and Reality, 137-38; and Science and the Modern World, 52-55. In Process and Reality Whitehead notes that in the process, attributes or qualities are the forms of internal relationships between and within actual occasions. See Process and Reality, 309. See also Kraus's pivotal articulation of the act of predication necessitating double abstraction of both subject and predicate and then in their isolated status being projected back into reality. Kraus, 5.

¹²⁸ Frank Kirkpatrick offers a provocative critique of this concept of subject as not pre-existing, but rather derivative from the process. He argues that in reality process is abstracted from being rather than being abstracted from process. Thus, he critiques process thought for a basic error in ontology. However, Kirkpatrick's claim, that it is impossible to talk of a subject without presupposing a fundamental notion of being and that the notion of "becoming" is not adequate for the concept of subject, is unconvincing. His argument gives too little credence to Whitehead's fundamental concept of "self determining" as definitional for subject. The entire article is provocative. Frank Kirkpatrick, "Subjective Becoming: An Unwarranted Abstraction?" Process Studies 3 (Spring 1973): 15-25.

¹²⁹ Kraus, 4.

¹³⁰ Whitehead, Process and Reality, 56, 70. Robert Mack offers a penetrating analysis of the double strain in Whitehead. On the one hand, Whitehead discerns process to mean that nature is essentially active. But, on the other hand, Whitehead's analysis of sense-awareness seems to make mind more passive. Mack, The Appeal to Immediate Experience: Philosophic Method in Bradley, Whitehead and Dewey (New York: King's Crown Press, 1945), 39-49. See further reference to this critique in endnote 186.

¹³¹ Patricia Carini, The Act of Seeing and the Visibility of the Person (Grand Forks, N.D.: University of North Dakota Press, 1979), 1, cited in Oliver and Gershman, 216.

¹³² See Whitehead, Process and Reality, 157, 146. On page 157 of Process and Reality Whitehead explicates the distinctions of the two principles. The subjectivist principle affirms that the real object of experience is the universals, not particulars. Extrapolating from this definition one can identify the underlying premise to be: it takes a mind/subject to perceive eternal objects/forms/universals. Thus, the idealism of Kant's categories of the mind is rooted in this principle. The sensationalist principle affirms that the mind passively entertains given objects. Realism is rooted in this principle.

¹³³ Whitehead, Process and Reality, 166, 167. See also Process and Reality, 159-60. In the reformed subjectivist principle Whitehead emphasizes two premises: (1) all experience is rooted in the constitutive activity of a subject; and (2) the prehension of an actual entity is constituted by the integration of universals and particulars. For a pivotal articulation of Whitehead's reliance on experience see John B. Bennett, "Whitehead and a Framework for

Liberal Education," Teachers College Record 82 (Winter 1980): 329-41.

¹³⁴ Whitehead, Process and Reality, 152.

¹³⁵ Non sensuous perception will be discussed in the mind-body dualism section of this chapter, pp. 196-98. See Process and Reality, 190 and 242, for Whitehead's articulation of his denial of the sensationalist doctrine based on the doctrine of objectification.

¹³⁶ Paul Schmidt, 77, 83. The grey stone analysis is in Process and Reality, 159-60. See also Science and the Modern World, 88-91, for Whitehead's description of his provisional realism in its tensions with subjectivist and objectivist thought.

¹³⁷ Whitehead, Concept of Nature, 4-5. See also p. 28.

¹³⁸ See Lowe, 210-13.

¹³⁹ Paul Schmidt, 64.

¹⁴⁰ Whitehead, Process and Reality, 158.

¹⁴¹ Felt, 286. See this entire article for Felt's penetrating critique of Whitehead's attempt to maintain this balance. Whitehead's premise that scientific objects are perceived by inference or abstraction and yet those abstractions are at the same time "in nature" draws Felt's critique. Felt argues that Whitehead's premise is inconsistent for the two parts of the premise are contradictory.

¹⁴² See Whitehead, Process and Reality, 63 and 251.

¹⁴³ Blyth, 28. See pp. 26-28 for Blyth's very convincing argument.

¹⁴⁴ Whitehead, Process and Reality, 76.

¹⁴⁵ Whitehead, Process and Reality, 290. See also pp. 151, 212, and 310.

¹⁴⁶ Whitehead, lecture, 11 November 1924, cited in Hocking, 15-16.

¹⁴⁷ Nancy Howell, "Radical Relatedness and Feminist Separatism: A Whiteheadian Inquiry," unpublished paper for the American Academy of Religion, Western Region, 16-18 March 1989, p. 10.

¹⁴⁸ See Science and the Modern World, 91, for Whitehead's denial of simple location by virtue of the experiencing subject, or more specifically, of the bodily experience of the subject. See Reto Fetz's article, "On the Formation of Ontological Concepts," for a provocative discussion of similarities between Whitehead and Piaget. In both Whitehead and Piaget the genesis of being is anchored in a self-world merger. The self-world dualistic separation is therefore a later development which in many ways "sacrifices important aspects of the original experience of self and world." Fetz also links the Piagetian concept of the emergence of "thing" with this later self-world dualistic separation. Reto Luzius Fetz, "On the Formation of Ontological Concepts: The Relationship Between the Theories of Whitehead and Piaget," Process Studies 17 (Winter 1988): 262-72.

¹⁴⁹ Brumbaugh, 121-24. Brumbaugh offers a pivotal articulation of the implications of the denial of simple location for the concept of space, both metaphysically and educationally. His provocative critique of the classroom as "insulating space" deserves great attention. See pp. 22-35. See also Brian Hendley's summation of Brumbaugh's thought. Hendley, "Robert Brumbaugh: Towards a Process Philosophy of Education," Process Studies 17 (Winter 1988): 227-31.

¹⁵⁰ Mack, 35. See also Science and the Modern World, 93, 105; and Religion in the Making, 97.

¹⁵¹ Lowe, 38.

¹⁵² See Kraus, 14 and 28. See also Modes of Thought, 109, 110-11; and Religion in the Making, 98.

¹⁵³ Whitehead, Process and Reality, 29. See also pp. 45 and 245. Whitehead frames the relationship in this way: "But the 'satisfaction' is the 'superject' rather than the 'substance' or the 'subject.' It closes up the entity; and yet is the superject adding its character to the creativity whereby there is a becoming of entities superseding the one in question. The 'formal' reality of the actuality in question belongs to its process of concrescence and not to its 'satisfaction.' This is the sense in which the philosophy of organism interprets Plato's phrase 'and never really is'; for the superject can only be interpreted in terms of its 'objective immortality.'" Process and Reality, 84.

¹⁵⁴ Jorge Luis Norbo, "Whitehead's Principle of Process," Process Studies 4 (Winter 1974): 279. Norbo argues that as subject the actual entity is not a "being," only a "becoming." Only as a superject is it a "being." Norbo, 275-79. As noted previously (endnote 128), Kirkpatrick gives a pivotal critique of this concept of being which the organic paradigm posits.

Kirkpatrick notes the difficulty in making sense of subject when it only applies to becoming.

155 Whitehead, Process and Reality, 155.

156 Whitehead, Process and Reality, 88. See also Emmet, 48. Oliver and Gershman make a provocative observation that in the "machine-oriented" world this substance concept of the subject-object relationship becomes embodied in the actions of a living subject creating (inventing) an inert object. Oliver and Gershman, 145. The implications of the organic reversal undercut the very presuppositions of a mechanistic world view.

157 Norbo, 280. See Process and Reality, 69, 85, and 241.

158 Kraus, 50.

159 Whitehead, Process and Reality, 85. See also Lawrence, 215, for a further explication of this point.

160 Oliver and Gershman offer a penetrating observation of the linkage between the English language syntax and the "subject-acting-on-object" structure of experience. Oliver and Gershman, 228.

161 Whitehead, Process and Reality, 28-29. See also pp. 167, 309.

162 In many ways this concept of objects is reminiscent of the primitive concept of dynamic objects. It portrays a nuanced flavor of the "enchanted world" discussed on pp. 31-33 of Chapter 2. In the context of that discussion, Whitehead counteracts the move toward a "dis-encharned" world. In a return to an enchanted world, the organic paradigm posits the move toward the concrete and its origin in subjective immediacy to be a move toward discerning the true nature of objects. There is a certain naivete embedded in this view of dynamic objects. However, such naivete must not be construed as synonymous with a child's naivete. The return to the naivete of this enchanted world is analogous to the adult's return to a child's perception while still retaining the adult experience. For a provocative discussion of this adult naivete see Felt, 269-71.

163 Whitehead, Process and Reality, 28. For other instances of the obligatory function of objects see Process and Reality, 28, 215, 239; and Adventures of Ideas, 194-95.

164 Whitehead, Process and Reality, 310.

165 Whitehead, Process and Reality, 213.

¹⁶⁶ See such instances in Process and Reality, 213, 215, 220, 231; Adventures of Ideas, 179; and Modes of Thought, 96.

¹⁶⁷ Whitehead, Process and Reality, 85.

¹⁶⁸ In a footnote in her discussion of superject, Elizabeth Kraus comments that she sometimes uses superject as a verb to denote a posture of not just being "given for," but also "acting in." The linguistic formulation in Whitehead suggests that this verb quality has more prominence in the organic paradigm than Kraus is giving to it, as she relegates it to a footnote. Kraus, 56. See also Marjorie Suchocki's very convincing argument for a third phase in the creative advance between the dynamicness of the subjective concrescence and the staticness of the satisfaction. Suchocki argues that in this middle stage the activity could be named "givingness," to denote that the givenness of completed satisfaction is not wholly passive or static but retains a dynamic. In the context of her discussion, that dynamic is the dynamicness of holding the many in unity and the enjoyment of it. In the context of the discussion of this paper on the subject-object relations, that dynamic of "givingness" marks the agency of the object. Suchocki, The End of Evil, 86-89.

¹⁶⁹ Whitehead, Process and Reality, 233.

¹⁷⁰ Whitehead, Process and Reality, 236.

¹⁷¹ Kraus, 105. See also Donald W. Sherburne, "Responsibility, Punishment, and Whitehead's Theory of the Self," Alfred North Whitehead: Essays on His Philosophy, ed. George L. Kline, 184-85. Sherburne offers an incisive articulation of the ethical implications of this issue. Agency implies responsibility. Thus, it is crucial in the organic paradigm that the object have some agency or responsibility for what the subject does in order that past actual entities be held accountable for more actions in the present.

¹⁷² Marjorie Suchocki, "Openness and Mutuality in Process Thought and Feminist Action," Feminism and Process Thought, ed. Sheila Greeve Davaney (New York: Edwin Mellen Press, 1981), 70. See also Suchocki, The End of Evil, 81-96.

¹⁷³ Whitehead, Process and Reality, 107.

¹⁷⁴ Paul Schmidt, 124. Schmidt's third sense has some tension with Suchocki's concept of retention of subjective immediacy through the mediation of God. Outside of the mediation of God, the object is not felt with its subjective immediacy. See also Adventures of Ideas, 180.

175 Johnson, 196.

176 Whitehead, Process and Reality, 243. See also Alfred N. Whitehead, Symbolism: Its Meaning and Effect (New York: Macmillan Co., 1927), 20.

177 Whitehead, Process and Reality, 246. See pp. 246-48, as well as 26, 107, 184, and 268.

178 See Symbolism: Its Meaning and Effect, 25-26, where Whitehead explicates abstraction as a process of hybrid physical feelings. Thus, even abstraction, which on the surface seems to be a product of mental functioning, is in reality a function of this interlocked configuration of mental and physical prehensions.

179 Whitehead, Modes of Thought, 31.

180 Whitehead, Process and Reality, 113-14. See also Concept of Nature where Whitehead critiques the sense perception theory for its search for causes, which are derivative, rather than relations, which are basic or primary. He makes the point in this way: "For example, the fire is burning and we see a red coal. This is explained in science by radiant energy from the coal entering our eyes. But in seeking for such an explanation we are not asking what are the sort of occurrences which are fitted to cause a mind to see red. The chain of causation is entirely different. The mind is cut out altogether. The real question is, When red is found in nature, what else is found there also? Namely we are asking for an analysis of the accompaniments in nature of the discovery of red in nature.... In other words, science is not discussing the causes of knowledge, but the coherence of knowledge. The understanding which is sought by science is an understanding of relations within nature." Concept of Nature, 40-41.

181 See Whitehead, Modes of Thought, 111-12, 132-33, 154, 162; Adventures of Ideas, 280; and Process and Reality, 113-14.

182 Whitehead, Process and Reality, 81.

183 Whitehead, Process and Reality, 81. For other references to Descartes' truncation of perception to presentational immediacy see Process and Reality, 122 and 173. For other sources of Whitehead's concept of the "withness" of the body and the body's role in perception see Process and Reality, 63, 64, 118, 122-23, 126, 129, 176, 311-12, 333; and Modes of Thought, 158-59.

¹⁸⁴ Whitehead, Modes of Thought, 163-64. See Aims of Education, 50-51, where Whitehead explores the implications for educational theory of the primacy of the body. "I lay it down as an educational axiom that in teaching you will come to grief as soon as you forget that your pupils have bodies." Aims, 50. This probing discussion leads Whitehead into the explication of the importance of the human hand in its connection with the brain. This intimate and reciprocal connection calls upon educators to be more cognizant of the educational importance of hand-craft. His warning has merit for all professional thinkers. "The disuse of hand-craft is a contributory cause to the brain-lethargy of aristocracies.... The necessity for constant writing and vocal exposition is some slight stimulus to the thought-power of the professional classes. Great readers, who exclude other activities, are not distinguished by subtlety of brain. They tend to be timid conventional thinkers. No doubt this is partly due to their excessive knowledge outrunning their powers of thought; but it is partly due to the lack of brain-stimulus from the productive activities of hand or voice." Aims, 51.

For discussions of the implications of Whitehead's primacy of body for the re-evaluation of the bodily dimension of women's experience see the following: Lois Livezey, "Women, Power, and Politics: Feminist Theology in Process Perspective," Process Studies 17 (Summer 1988): 68-70; and Washbourn, 83-105.

¹⁸⁵ See Whitehead, Symbolism: Its Meaning and Effect, 37-40, 50.

¹⁸⁶ Robert Mack critiques Whitehead's concept of mind (pp. 39-40). Mack argues that Whitehead offers a "passive eye" concept of the mind, by which the mind remains outside nature and does nothing but "see" it. Mack's argument has credibility when one only reads Whitehead's earlier works, Concept of Nature and Principles of Natural Knowledge. There Whitehead does explicate awareness as the fundamental role of the mind. However, Mack's argument fails to give adequate attention to Whitehead's development of symbolic reference in Process and Reality which broadens both the understanding of perception and mind.

¹⁸⁷ Whitehead, Process and Reality, 173. For other references on the derivative nature of presentational immediacy see Process and Reality, 172, 176, 311-12, and 333. Whitehead discusses the enhancement role of presentational immediacy in higher grades of organisms on p. 120 of Process and Reality.

¹⁸⁸ See Whitehead, Process and Reality, 168; and Symbolism: Its Meaning and Effect, 20-21. See also Whitehead's discussion of the distinction of Appearance and Reality and its rootage in the mode of symbolic reference in Adventures of Ideas, 209-13, 250, 270, and 281. In the process of perception the early receptive phases of causal efficacy and presentational immediacy give way in a later phase to their mixture, a mode which engenders the interpretation portion of perception. When error occurs it emerges from this later phase of symbolic reference.

¹⁸⁹ Whitehead, Adventures of Ideas, 225.

¹⁹⁰ Whitehead, Adventures of Ideas, 226.

¹⁹¹ Whitehead, Process and Reality, 178-79. See also Process and Reality, 172, 176; Adventures of Ideas, 212, 226; Modes of Thought, 83; and the material on Appearance and Reality cited above in endnote 188. In these passages Whitehead discusses Appearance in its derivation from presentational immediacy with its commensurate quality of being clear and distinct. Reality, however, derived from causal efficacy is cloaked in vagueness.

¹⁹² Alfred North Whitehead, The Function of Reason (Princeton: Princeton University Press, 1929), 62f, cited in Lowe, 181-82.

¹⁹³ Lowe, 181.

¹⁹⁴ Oliver and Gershman, 145.

¹⁹⁵ Whitehead, Function of Reason, 34, cited in Arthur H. Jentz, Jr., Whitehead's Philosophy: Primary Texts in Dialogue (Lanham, Md: University Press of America, 1985), 52.

¹⁹⁶ Whitehead, Process and Reality, 315.

¹⁹⁷ Whitehead makes this statement: "In Cartesian language, the essence of an actual entity consists solely in the fact that it is a prehending thing (i.e., a substance whose whole essence or nature is toprehend)." Process and Reality, 41. See also Modes of Thought, 166.

¹⁹⁸ Whitehead, Religion in the Making, 97, 145. See also Modes of Thought, 150-52.

¹⁹⁹ Whitehead, Adventures of Ideas, 180.

²⁰⁰ Whitehead, Process and Reality, 162-63. See also Adventures of Ideas, 176.

201 Whitehead, Adventures of Ideas, 250; and Process and Reality, 315. See Process and Reality, 114 and 117, for an explication of sense reception wherein "the sensa are the definiteness of emotion, ... emotional forms transmitted from occasion to occasion." In Process and Reality, 141-42, Whitehead links this primacy of emotion to a denial of the sensationalist bias that emotion is derived from sensation. The organic paradigm affirms emotion to be primary and sensation to be derivative. See also Modes of Thought, 122.

202 Whitehead, Process and Reality, 24. See also Adventures of Ideas, 231.

203 Whitehead, Process and Reality, 41-42. See also 275.

204 See Whitehead, Modes of Thought, 122 and 166.

205 Whitehead, Religion in the Making, 101.

206 See Whitehead, Religion in the Making, 111; and Process and Reality, 279-80.

207 Emmet, 237-39. See her discussion for an illuminative reflection upon Whitehead's resonance with the Greek view of elements in nature exhibiting rational order and moral and aesthetic intuitions, all within the overarching concept of the "fitness of things."

208 Lowe, 248.

209 Ralph V. Norman, Jr., "Whitehead and Mathematicism," Alfred North Whitehead: Essays on His Philosophy, ed. George L. Kline, 37-38.

210 Whitehead, Process and Reality, 342.

211 Whitehead, Modes of Thought, 168.

CHAPTER 4

Michael Polanyi

One Sunday morning during worship in a local church in Southern California, an elderly man, Everett Woodruff, responded to the invitation, walking down the aisle with the help of his walker. The usual question was asked of him, "Do you believe that Jesus is the Christ, the son of the Living God?" For the people present in worship that day, the ritual was well known and they listened with polite attention, expecting to hear the routine played out with the usual quietly murmured response, "I do." Their ritualistic listening was suddenly shattered as Woodruff responded to the question in an animated and booming voice exclaiming, "I don't believe," (pause), "I KNOW!"

While many in that congregation in their sophisticated and scientific world view which separates belief and knowledge, (and having made peace with that separation), patronizingly smiled at Woodruff's obvious naivete and simplistic blurring of the lines between the two, Michael Polanyi would have understood Everett Woodruff. And while Everett Woodruff did not need Michael Polanyi's philosophical

analysis of the intertwining of belief and knowledge, he certainly would have affirmed Polanyi's insights. Although he is not theologically grounded, Michael Polanyi in many ways speaks the language of Everett Woodruff and all religious knowers.

Michael Polanyi was born in Budapest, Hungary in 1891. He received doctoral degrees in both medicine and chemistry. Although his first love was chemistry, he began his professional career as a medical doctor "because he feared that he might be denied a University appointment in view of the fact that his family was Jewish."¹ However, after serving as a medical doctor in the Austro-Hungarian army during World War I, Polanyi could no longer deny the call of chemistry. Taking a chance, he accepted a position as a physical chemist at the Kaiser Wilhelm Institute in Berlin. But as Germany began to change under the growing influence of Adolph Hitler, Polanyi found himself and his family in a dangerous situation. In 1933 he, his wife, and his two sons left Germany for England where he joined the faculty of the University of Manchester. Polanyi held a chair as Professor of Physical Chemistry in distinction from 1933-1948. At one time he was considered as a possible candidate for the Nobel Prize in either physics or chemistry.² In 1948, at the age of 57, he exchanged the Chair in Physical Chemistry for a chair as Professor of Social Studies, a move which constituted a major career shift. He held this chair from 1948 until 1958.

While Polanyi's last scientific paper was written in 1949,³ his writings in philosophy of science, which began in 1935, continued until shortly before his death in 1976. Through many articles, lectures, and several major books, this physician-chemist argues for a fundamental change in the prevailing paradigm of the knowing process. Beginning with his small book, Science, Faith and Society (1946), Polanyi critiques the modern scientific epistemology. His magnum opus, Personal Knowledge (1958), presents a comprehensive epistemological alternative. Two pivotal books followed: The Tacit Dimension (1966) and Meaning (1975). The latter was written in collaboration with Harry Prosch since Polanyi's health prevented him from completing it. Several of his articles have been collected by Marjorie Grene in Knowing and Being (1969). In a summary statement of Polanyi's biography, Harry Prosch observes: "[Polanyi's] influence had a slow but steady growth, especially in America, unfortunately not as much among philosophers (who have in general either ignored him or discounted his importance as a philosopher) as among sociologists, economists, psychologists, scientists, and theologians."⁴

In the latter years of his professional life Polanyi turned his attention to issues of epistemology. Spurred by the inadequacy and distortion which he perceived in the positivistic epistemology underlying scientific and philosophical thought, Polanyi sought to dismantle the grip

of positivism both by critique and by alternative epistemological construction. Both his critique and his alternative epistemology offer pivotal insights for religious knowing. Before explicating Polanyi's constructive epistemological paradigm, the following discussion will summarize his critique.

Critique of Positivistic Epistemology

By the eighteenth century the scientific enterprise birthed by Newtonian and Baconian principles, and nurtured by a rationalism which rejected all authority, was anchored in the ideal of a complete and perfect objectivism. Historically, this move toward objectivism was energized by the struggle to free the human mind from the dogmatic authority of the Medieval Church. No longer was truth established and known through authoritative decree; rather, it was to be discerned through observation and skeptical scrutiny. Polanyi describes the historical seeds of objectivism in this way:

Cartesian doubt and Locke's empiricism became then the two powerful levers of further liberation from established authority. These philosophies and those of their disciples had the purpose of demonstrating that truth could be established and a rich and satisfying doctrine of man and the universe built up on the foundations of critical reason alone. Self-evident propositions or the testimony of the senses, or else a combination of the two, would suffice.⁵

Knowledge was veridically reliable only as it was purged of personal and subjective qualities. Scientific objectivism,

and the philosophical position of logical positivism which issued from it,⁶ were grounded in a threefold epistemological paradigm:

(1)[T]here are objective states of affairs, that is, ... something is the case "independently of our minds," which it is our business to come to know; and (2) ... the method of careful and accurate observation of immediately given sense data, without reference to our personal participation, our wishes, wants, values, hopes, fears, or expectations, is of the utmost importance; and (3) ... the final arbiter of scientific theory is a crucial experiment with all factors carefully controlled, an experiment that can subject our theory to an acid test because it results in the observations or lack of observation of sense data predicted on the basis of the theory.⁷

In the place of authority and traditional belief, scientific objectivism and subsequently logical positivism, established the methodical rigor of exact operations, verification, unequivocal language, all immersed in the critical stance, as the means of attaining knowledge, a knowledge which was constituted by complete and total objectivity.⁸

Polanyi repeatedly used the ideal of knowledge posited by Laplace as a paradigmatic taproot of the positivistic epistemology. Laplace formulated the thesis that the behavior of a system of particles could be completely known, both in their past and in their future, if at a given instance one knew precisely the positions and velocities of each individual particle. This complete knowledge grounded in the ability to compute everything past, present and future functioned to explain all experience in terms of atomic data.⁹ The Laplacean model epitomized the ideal of total detachment and

objectivity. With this ideal, as Marjorie Grene has paraphrased Polanyi, "we suppose that if we had an infinite blackboard we could write down one after another in final and precise form all the knowledge there is to be known."¹⁰

The positivistic epistemology continues to inform scientific knowing even after the philosophical movement of logical positivism has diminished.¹¹ Definitively, knowledge is "explicitly formulated, critically established, and objectively verified";¹² all else is not knowledge. Nothing else but that which is derived through detached and objective analysis can be accredited as veridical vis-a-vis reality.

Polanyi's critique of scientific objectivism and positivism coalesces from three fronts: its epistemological fallacy, its metaphysical denigration, and its ethical and cultural destruction. The fundamental epistemological fallacy of the ideal of detached objectivity becomes, for Polanyi, the vulnerable linchpin in the infrastructure of the positivistic paradigm and he unrelentingly works to expose it. The picture of scientists, purely detached from their hypotheses, observations, and experiments, and therefore, from the resultant knowledge, is not in fact how scientists actually do engage in their methodological process of coming to know. This "massive modern absurdity" which promulgates knowledge as impersonal and non-subjective simply is not adequate to the experience of scientists.¹³ Drawing on the experience of such notable scientists as Einstein, Copernicus, Planck, and

others, Polanyi discloses the fundamental role of heuristic passion and personal involvement in their work.¹⁴

A second front on which Polanyi critiques scientific objectivism and positivism is its metaphysical denigration. Eliminating all metaphysical claims of knowledge, positivism mechanizes and atomizes knowledge, and correlatively, the human person, to the extent that meaning itself is destroyed.

[T]he principles of scientific rationalism are strictly speaking nonsensical. No human mind can function without accepting authority, custom, and tradition: it must rely on them for the mere use of a language. Empirical induction, strictly applied, can yield no knowledge at all, and the mechanistic explanation of the universe is a meaningless ideal.¹⁵

Using the Laplacean paradigm, Polanyi further links this mechanistic and reductionistic epistemology with the loss of meaning as it functions to denigrate both what we seek to know and ourselves as human objects.

This ideal of universal knowledge is mistaken, since it substitutes for the subjects in which we are interested a set of data which tell us nothing that we want to know.... The tremendous intellectual feat conjured up by Laplace's imagination has diverted attention (in a manner commonly practised by conjurers) from the decisive sleight of hand by which he substitutes a knowledge of all experience for a knowledge of all atomic data. Once you refuse this deceptive substitution, you immediately see that the Laplacean mind understands precisely nothing and that whatever it knows means precisely nothing.... The ideal of strictly objective knowledge, paradigmatically formulated by Laplace, continues to sustain a universal tendency to enhance the observational accuracy and systematic precision of science, at the expense of its bearing on its subject matter.... [It indicates] a wider intellectual disorder: namely the menace to all cultural values, including those of science, by an acceptance of a conception of man derived from a

Laplacean ideal of knowledge and by the conduct of human affairs in the light of such a conception.¹⁶

Polanyi tightens the critique by naming the ultimate effect of such reductionistic knowledge: such "misguided intellectual passion--a passion for achieving absolutely impersonal knowledge which, being unable to recognize any persons, presents us with a picture of the universe in which we ourselves are absent."¹⁷ Calling for the recognition of a "metaphysical reality, irreducible to material elements," Polanyi makes explicit the "need [for] a theory of knowledge which shows up the fallacy of positivistic skepticism and supports the possibility of a knowledge of entities governed by higher principles."¹⁸

The third front upon which Polanyi critiques scientific objectivism and positivism is the front of its ethical and cultural destruction. Mechanical reductionism embodies a concept of the human which ultimately destroys ethical responsibility and cultural coherence. In many of his writings Polanyi analyzes the destructive force of totalitarian systems and the cultural illness of other systems, showing the roots of their perversion to lie in their commitment to the ideal of detached objectivity. The epistemological assumptions of that ideal mask profound ethical and cultural implications.

The rebellion of scientific rationalism against religious authority was based on the appeal to facts against dogma. Positivism merely pursued this movement to its logical conclusions by repudiating metaphysics along with dogma. The Viennese school

of philosophy carried out this program by rejecting as metaphysical any statements about the world that are not verifiable in experience or that are not ... falsifiable by experience. This view in effect discredits all ethical statements. For if you say that it is wrong to bear false witness, you say something that cannot be proved or disproved by experiential facts. No conceivable occurrence, no measurement or observation, can decide whether any action is moral or immoral, just or unjust, good or evil. Hence, in this positivistic view of empiricism, to call something immoral, unjust, or evil is to speak with no empirical meaning.... As long as science remains the ideal of knowledge, and detachment the ideal of science, ethics cannot be secured from complete destruction by skeptical doubt.¹⁹ (emphasis added)

The very ideals of free society, Polanyi promulgates, are weakened by premises of detached objectivity as it leads to a culture where truth, value, and even the human are problematic.²⁰

Polanyi's critique of scientific objectivism and positivism conjoins with the promulgation of an alternative epistemology. In an attempt to rupture the deep-seated epistemological premises of detached objectivity, Polanyi advocates the paradigm of personal knowledge. While personal knowledge may sound like a "square circle" to many, Polanyi insists that it is not an innovation, but rather is quite commonplace, an existential truth which everyone knows, at least implicitly.²¹ Thus, as his explication of this epistemological paradigm functions to disclose the radical naturalness of personal knowing, it unmask the fallacious nature of detached objectivity.

The following discussion of Polanyi's paradigm will first explore the basic components of the paradigm. Upon the bedrock of those characteristics, the discussion will then address how this epistemology responds to the dualisms of subject-object, mind-body, and reason-affect. The examination of the paradigm will conclude with a summarization of its epistemological implications.

Components of the Paradigm

Michael Polanyi regards scientific knowing as paradigmatic of cognitional processes.²² The phenomenology of the discovery process which is embedded within scientific problem solving illuminates how knowing fundamentally occurs. As Marjorie Grene exegetes Polanyi's enterprise, she grounds Polanyi's epistemology in that fundamental question of Meno to Socrates in Plato's Meno. Here the problem of discovery is sharply posed. In Grene's words,

if you really know nothing of the nature of virtue, Meno asks Socrates, how do you propose to find out? How can we ask for something if we do not so much as know what that something is? We shall be like a detective looking for a murderer without a single clue.... Not knowing it, we could not even recognize 'virtue' if we found it.... [H]ow can we seek what we do not yet know? To seek it, we must know it; but if we know it, there is no search.²³

Or, in Meno's words,

why, on what lines will you look, Socrates, for a thing of whose nature you know nothing at all? Pray, what sort of thing, amongst those that you know not, will you treat us to as the object of your search? Or even supposing, at the best, that you hit upon it, how will you know it is the thing you did not know?²⁴

Greene continues by naming this Platonic challenge: "how can knowledge come of ignorance? How can we know the unknown, describe as our goal what is, as yet, undescribable? ... How can we recognize a problem?"²⁵ While Polanyi agrees with Plato that this question lies at the root of all epistemology, he does not concur with Plato's answer which was explicated in the theory of recollection. Instead, Polanyi discerns the answer to the problem of how we can ever discover the unknown to be found in the theory of personal knowledge.

Polanyi's fundamental response to this Platonic question emerges in the primary component of his epistemological paradigm of personal knowledge, the distinction between two kinds of knowing: focal and subsidiary, or explicit and tacit. However, the second and third components of the paradigm, the concept of indwelling and the concept of "personal" knowledge, further nuance his response. In explicating these three components of the paradigm Polanyi makes intelligible the search for the unknown. Before exploring these components this discussion will first provide a definitive summary of each.

The two kinds of knowledge, focal and subsidiary, are distinguished by their function. Focal knowledge exists by virtue of focused awareness upon an object or idea. Subsidiary knowledge exists by virtue of its functioning as a clue or instrument pointing beyond itself;²⁶ there is no

awareness of it in and of itself. The principle which informs this distinction is formulated by Polanyi to be:

whenever we are focusing our attention on a particular object, we are relying for doing so on our awareness of many things to which we are not attending directly at the moment, but which are yet functioning as compelling clues for the way the object of our attention will appear to our senses.²⁷

Carrying out its function of "bearing on something at the focus of our attention,"²⁸ subsidiary knowledge thus exists in a logical relationship with focal knowledge. This logical relationship of function between the two kinds of knowledge is illustrated in the use of a hammer to drive a nail.

When we use a hammer to drive in a nail, we attend to both nail and hammer, but in a different way. We watch the effect of our strokes on the nail and try to wield the hammer so as to hit the nail most effectively. When we bring down the hammer we do not feel that its handle has struck our palm but that its head has struck the nail. Yet in a sense we are certainly alert to the feelings in our palm and the fingers that hold the hammer. They guide us in handling it effectively, and the degree of attention that we give to the nail is given to the same extent but in a different way to these feelings. The difference may be stated by saying that the latter are not, like the nail, objects of our attention, but instruments of it. They are not watched in themselves; we watch something else while keeping intensely aware of them. I have a subsidiary awareness of the feeling in the palm of my hand which is merged into my focal awareness of my driving in the nail.²⁹

Because of their functional distinction subsidiary and focal knowledge denote not two degrees of knowledge, but rather two kinds of knowledge.³⁰

Polanyi deepens this dual distinction of knowledge by use of the constructs of explicit and tacit knowledge. Explicit

knowledge is that knowledge which is specifically known; tacit knowledge is that knowledge which cannot be specified since it exists by virtue of our reliance upon it for attending to the explicit.³¹ In this definition, however, the very nature of tacit knowledge makes its definition much more vague than the definition of explicit knowledge. The tacit nature of a knowledge which is known only by "reliance upon" resists attempts to explicitly define it, for it "refers to that foundational awareness [itself] which makes definition possible."³² Tacit knowledge underlies all explications, including definitions. However, while definitions of these two constructs are somewhat vague, their distinctions can be indicated more clearly through characteristic categories: analytic clarity, deductive and/or inductive logic and 'sayability' constitute explicit knowledge; skill performances, behavior patterns and 'showability' constitute tacit knowledge.³³

The structure of knowledge evidenced in both the focal-subsidiary and the explicit-tacit dualities hinges upon the "from-to" dynamic.

The grounds of all tacit knowing are items--or particulars--like the stereo pictures of which we are aware in the act of focusing our attention on something else, away from them. This I call the functional relation of subsidiaries to the focal target, and we may also call it a from-to relation. Moreover, I can say that the relationship establishes a from-to knowledge of the subsidiaries, as linked to their focus. Tacit knowing is a from-to knowing.³⁴

Polanyi borrows a language from anatomy and names the subsidiary clues the proximal term, and the focal object, the distal term.³⁵ For example, in the act of reading the eye muscles and the ink spots on the page are the proximal entities; the words and sentences are the focal. The process of cognition engages one in the directional activity of "attending from the proximal to the distal term,"³⁶ from the eye muscles and ink spots to the words. Subsidiaries function vectorially, directing the knower's thinking.³⁷

With these brief definitive statements upon the focal-subsidiary and explicit-tacit epistemological constructs a second major component of the paradigm becomes implicated. Drawing together the discernment into the functioning of both subsidiary clues and one's own body, Polanyi finds the foundational imprint of "indwelling" in all knowing experiences. Indwelling occurs as knowers make subsidiary clues a part of their own body by pouring themselves into the clues and thus dwelling in them.³⁸ In their "dwelt-in" status, the subsidiary clues then function as one's own body functions, as a from standpoint for knowing that which is beyond. Indwelling extends the body into external particulars.

Whenever we use certain things for attending from them to other things, in the way in which we always use our own body, these things change their appearance. They appear to us now in terms of the entities to which we are attending from them, just as we feel our own body in terms of the things outside to which we are attending from our body. In this sense we can say that when we make a thing

function as the proximal term of tacit knowing, we incorporate it in our body--or extend our body to include it--so that we come to dwell in it.³⁹

In his promulgation of indwelling Polanyi argues that knowledge is achieved and meaning understood not by looking at things, but by dwelling in them, specifically in their parts whose joint meaning is to be discerned from within.⁴⁰

A third component of this paradigm is the concept of personal knowledge. The coefficient of personal within all knowing manifests itself with a dual face. On the one side, knowledge is always constituted as "somebody's knowledge," as knowledge accompanied by an implied prefatory, "I say," "I know."⁴¹ Thus, knowledge is always personal, held by a person. One may attempt "to discover knowledge that will stand up by itself, objectively, but the moment he reflects on his own knowledge he catches himself red-handed in the act of upholding his knowledge."⁴² On the other side, knowledge is always inclusive of the contribution of the knower. By virtue of the indispensable presence of the tacit component and of the functioning of indwelling, all knowing, scientific as well as non-scientific, is constituted through personal participation. As noted previously, Polanyi's promulgation against the positivistic foundations of the scientific epistemology becomes centered in this pivot of the epistemological nature of personal. Thus, he exposes the personal dimensions inherent in even the scientific reading of instruments.

Even the most modern instruments are affected by this uncertainty. There is ample evidence that even by using highly automated recorders we cannot exclude a personal bias that might affect a series of readings. Even the most exact sciences must therefore rely on our personal confidence that we possess some degree of personal skill and personal judgment for establishing a valid correspondence with--or a real deviation from--the facts of experience.... You may feel that we are attributing undue significance to a small and perhaps altogether negligible coefficient in the structure of science, but this would be like excusing the housemaid's illegitimate baby on the ground that it is, after all, only a small baby. It is the principle that matters; and in fact the slight gap between theory and instrument readings turns out to be thin only in the way the edge of a wedge is thin--a wedge that will prove thick enough at its base to completely separate "knowledge" from "detached objectivity." Personal, tacit assessments and evaluations, we see, are required at every step in the acquisition of knowledge--even "scientific" knowledge.⁴³

Given this dual face by which knowing always derives from the personal, the idea of impersonal knowledge is rendered self contradictory.⁴⁴ Upon these brief definitive statements this discussion will now explore each of the components in more depth.

Focal-Subsidiary Knowledge

Two primary lenses are employed by Polanyi to discern the interfunctioning of focal and subsidiary knowledge.⁴⁵ The first lens is Gestalt psychology. Through his transformation of Gestalt insights into a theory of knowledge,⁴⁶ Polanyi anchors the focal-subsidiary constructs into the analysis of comprehension as a product of two dynamics: background-foreground and parts-whole.

Gestalt theory asserts that in perception one discerns the figure by means of the background. The foreground and the background are looked at in two different ways but each are required if the figure is to be discerned. Background knowledge, while often nonspecific and indeterminate, is indispensable, and functions dynamically in the act of holding any focal knowledge. Because of the interplay between the two, the figure changes as the background changes. Polanyi deepens the analysis of this dynamic interaction by linking it with the very ability "to see," to see an object, to see a problem.

This interplay of background and figure illustrates a general principle: the principle that whenever we are focusing our attention on a particular object, we are relying for doing so on our awareness of many things to which we are not attending directly at the moment, but which are yet functioning as compelling clues for the way the object of our attention will appear to our senses. An obvious and often commented instance of this is our tendency to overlook things that are unprecedented. Having no clue to them, we do not see them. Charles Darwin has described how the Fuegians crowded wonderingly around the rowing boat which took his party on shore from the Beagle, but failed to notice the ship itself lying at anchor in front of them.⁴⁷

This "Fuegian attitude to the unprecedented" is further illustrated by Polanyi through several instances of scientists who missed the presence of a planet or star because they did not believe it was there. "Learning to see," especially where others see nothing, manifests itself as a process of using peripheral impressions as clues to focus upon an object or

problem.⁴⁸ Failure to employ the subsidiary clues, to integrate the background knowledge negates the focal figure.

The Gestalt lens in epistemological theory focuses one upon knowing as a dynamic of using the background as clues to know the foreground. This lens also focuses one upon knowing as a dynamic of the integration of parts which constitutes a whole. The whole-part structure which underlies all comprehension portrays an epistemological process of dwelling in the parts and attending from them to the whole.⁴⁹ The knowing of a comprehensive whole thus becomes the discerning of the joint meaning of its parts. Parts which function subsidiarily are seen in terms of the whole, in terms of the focal object.

We cannot comprehend a whole without seeing its parts, but we can see the parts without comprehending the whole. Thus we may advance from a knowledge of the parts to the understanding of the whole.... We may say that when we comprehend a particular set of items as parts of a whole, the focus of our attention is shifted from the hitherto uncomprehended particulars to the understanding of their joint meaning. This shift of attention does not make us lose sight of the particulars, since one can see a whole only by seeing its parts, but it changes altogether the manner in which we are aware of the particulars. We become aware of them now in terms of the whole on which we have fixed our attention.... I shall ... speak ... of a subsidiary knowledge of such items, as distinct from a focal knowledge of the same items.⁵⁰

Since the knowing process places the parts subsidiary in the whole, the parts are often unspecifiable in themselves. They are known only in their functioning toward a joint meaning and outside of that joint meaning of the whole they lose their

meaning. As Harry Prosch notes, this epistemological premise constitutes one of Polanyi's major counters to positivistic epistemology. While positivism derives wholes from parts, Polanyi follows Gestalt's emphasis of deriving parts from the whole.⁵¹ Objects are not discerned by identifying all their parts for, as Polanyi observes, parts can be discerned without ever comprehending the whole. Rather, the discernment of the whole leads to identification of its parts which exist always in terms of the whole. Knowing is not a parts-whole structure; it is a whole-parts structure.⁵²

A second lens employed by Polanyi to discern the interfunctioning of subsidiary and focal knowledge is the image of the triadic structure of the knowing process. The logic of tacit thought discloses a tacit triad composed of these coefficients: (a) subsidiary clues; (b) focus object; and (c) knower who integrates. In the functioning of the triad the subsidiary elements "point to" or "are brought to bear" upon the focal object by the knower.⁵³ Such "bringing to bear" is analogous to the experience of using a pointing finger.

This triad is akin to the triad of Pierce: 'A stands for B to C'. But I shall prefer to write instead: A person A may make the word B mean the object C. Or else: The person A can integrate the word B into a bearing on C. But to integrate a thing B into bearing on some C amounts to endowing B with a meaning that points at C. An obvious way to do this is to choose as B a finger pointing at C. Suppose a lecturer points his finger at an object, and tells the audience: 'Look at this!' The audience will follow the pointing finger and look at the object. There is a fundamental difference between the way

we attend to the pointing finger and its object. We attend to the finger by following its direction in order to look at the object. The object is then at the focus of our attention, whereas the finger is not seen focally, but as a pointer to the object. This directive, or vectorial way of attending to the pointing finger, I shall call our subsidiary awareness of the finger.⁵⁴

Subsidiaries within the triadic structure exemplify two kinds of epistemological "pointing fingers": subliminal and marginal. Subliminal clues, are "deeply hidden inside the body and cannot be experienced in themselves by the perceiver."⁵⁵ They offer the most self evident example of indwelling and become for Polanyi paradigmatic of how we indwell other subsidiaries. We literally indwell subliminal subsidiaries. These internal clues function through the process of projection. Polanyi discerns this dynamic of being "projected from the interior of the body into the space outside it" within both perception and the use of tools and probes.⁵⁶ The perception of external objects depends upon the internal subsidiaries of sense organs whose actions become projected outward. And, the use of tools and probes also evidences how the internal muscular reaction is displaced or projected onto the distant point of contact between the probe and the object.

Another example--and one that will help us later to understand visual perception--is the case of tactile cognition: of using a probe to explore a cavity, or a stick to feel one's way in the dark. Such exploration is a from-to knowing, for we attend subsidiarily to the feeling of holding the probe in the hand, while the focus of our attention is fixed on the far end of the probe, where it touches an obstacle in its path.... The sensation of the probe

pressing on fingers and palm, and of the muscles guiding the probe, is lost, and instead we feel the point of the probe as it touches an object.⁵⁷ (emphasis added)

The very nature of the from-to dynamic exemplified in the subliminal subsidiaries of visual perception and tactile cognition forges projection as a fundamental epistemological category.

In distinction from subliminal subsidiary clues, marginal clues can be observed directly. However, as they function subsidiarily, and therefore are observed indirectly in a from-to movement, they do so from "the corner of our eyes" as background for the focal.⁵⁸ As background, "corner of the eye" knowledge functions decisively in shaping what is focally known. Further, from the definitive nature of marginal subsidiary clues Polanyi adduces the principle that focal and subsidiary elements within the tacit triad are mutually exclusive. Marginal subsidiary clues can become focal and focal objects can become marginal subsidiary clues. But to function in both places of the triad simultaneously would be self contradictory. Polanyi often makes note of the loss which results from shifting an element from "the corner of the eye" to the focus of the eye.

Subsidiary awareness and focal awareness are mutually exclusive. If a pianist shifts his attention from the piece he is playing to the observation of what he is doing with his fingers while playing it, he gets confused and may have to stop. This happens generally if we switch our focal attention to particulars of which we had previously been aware only in their subsidiary role.⁵⁹

In addition to "corner of the eye" knowledge, marginal subsidiaries also manifest themselves as "back of the mind" knowledge. As such, past experiences and memories, functioning as background, shape what is focally perceived and known. This formative function bears a dual impetus. On one side, focal knowledge results from the interplay of the foreground and the background. On the other side, focal knowledge results from the obfuscation of the foreground by the background, specifically by the "back of the mind" knowledge. This latter impetus obstructs the knowledge of reality. Citing experiments with optical illusions, such as the Ames skewed room experiment in which a boy appears taller than a man, Polanyi posits that underlying such illusions is the "weight of the memories at the back of our mind" which so effectively makes us see what we know to be false.⁶⁰ The "Fuegian attitude to the unprecedented," previously referred to, also arises from the weight of the "back of the mind" knowledge which hinders the perception of reality in the object of focus. Here, in his promulgation of the decisive role of "back of the mind" clues in the knowing act, Polanyi integrally ties past and present together. Past experiences form a knowledge expectancy set which imprints knowledge emerging in the present.

The tacit triad lens is not only used by Polanyi to explicate the interfunctioning of subsidiary and focal knowledge. The triad lens also sharpens the image of the

knower. Within this triadic epistemological structure the knower functions to integrate and to sustain the integration of the subsidiary parts into the focal whole.

Thus the structure of tacit knowing ... includes a joint pair of constituents. Subsidiaries exist as such by bearing on the focus to which we are attending from them.... But this pair is not linked together of its own accord. The relation of a subsidiary to a focus is formed by the act of a person who integrates one to the other. The from-to relation lasts only so long as a person, the knower, sustains this integration.⁶¹

The integration is accomplished through a conscious, intentional act, an achievement whose mark of consciousness never negates its tacit roots.⁶²

Polanyi highlights the epistemological centrality of the tacit integration as he equates it with comprehension. In fact, integration becomes definitive of understanding. As he states in The Study of Man: "The structure of tacit knowing is manifested most clearly in the act of understanding. It is a process of comprehending: a grasping of disjointed parts into a comprehensive whole."⁶³ The coherence of parts constitutes knowing. In this premise Polanyi undercuts the positivistic concept of knowing as the differentiation and exploration of parts. Understanding is not a process of dissecting a whole into its parts, but rather discerning a whole with and through its parts.

Understanding, comprehension--this is the cognitive faculty cast aside by a positivistic theory of knowledge, which refuses to acknowledge the existence of comprehensive entities as distinct from their particulars; and this is the faculty which I recognize as the central act of knowing. For

comprehension can never be absent from any process of knowing and is indeed the ultimate sanction of any such act. What is not understood cannot be said to be known.⁶⁴

In this concept of knowing meanings thus become equated with wholes.⁶⁵ In these Gestalt like integrations, manifested also in pattern or order, meaning resides in the from-to cohesion.⁶⁶

Since the integration of parts arises from an act of the knower, the knower can also dissolve the integration. The dissolution of the integration indicates an act in which the knower looks differently at the subsidiaries and thereby destroys the whole. Focusing upon the subsidiaries shatters the integration. This dismemberment produces incomprehension.⁶⁷ As this shifting of attention to look at the subsidiaries rather than from them fractures the from-to integrating act, it signals the loss of meaning. The pianist who focuses upon the action of the fingers, the viewer who concentrates upon the brush strokes of the painting, the worshipper who centers his/her attention upon the mechanics of the Eucharist, finds meaning to have evaporated.

Since it is the loss of the function of the subsidiaries which dismantles the whole, meaning can be reestablished through reintegration, through restoring the particulars to their subsidiary function. For Polanyi such reintegration can never be the same as the original integration. The process of dismembering and reintegrating renders either improvement

or irrevocable damage.⁶⁸ Often the dismemberment, in its removal of the tacit rootage, cannot be remedied. But, Polanyi also acknowledges that analysis, the dismemberment of the integration into its component parts, can at times bring deeper understanding. Thus, while his polemic against positivism and behaviorism explicates the weakness of analysis,⁶⁹ he allows that skills and some other forms of knowledge are improved through the "see-saw" or oscillation of dismemberment and integration.⁷⁰

Explicit-Tacit Knowledge

In the delineation of explicit and tacit knowledge Polanyi explores their interactive and mutually supportive relationship. While that relationship is variously characterized by Polanyian commentators to be "dialectical,"⁷¹ "circular,"⁷² and "interdependent,"⁷³ one must carefully hear Polanyi's consistent touchstone. Epistemologically, tacit knowledge is necessary; explicit is not. While explicit knowledge always depends upon tacit knowledge, tacit knowledge is not dependent upon explicit. Thus the mutuality of tacit and explicit knowledge cannot be named "dialectical," "circular," nor "interdependent."

Now we see tacit knowledge opposed to explicit knowledge; but these two are not sharply divided. While tacit knowledge can be possessed by itself, explicit knowledge must rely on being tacitly understood and applied. Hence all knowledge is either tacit or rooted in tacit knowledge. A wholly explicit knowledge is unthinkable.⁷⁴

All knowledge falls into one of these two classes:
it is either tacit or rooted in tacit knowledge.⁷⁵

In explicating their relationship Polanyi insistently posits the primacy of tacit and the logical dependence of explicit knowledge upon its tacit rootage. Thus, positivism's search for a strictly explicit knowledge is unmasked as a false ideal.⁷⁶ Its futility is evident for there is always tacit knowledge beyond and beneath every explicit formulation, be it scientific formulas or aesthetic creations.

The taproot of tacit knowledge spawns two major outgrowths which essentially characterize the knowing experience. One of those outgrowths is the unspecifiable or indeterminate nature of knowledge. Because all knowledge is either tacit or rooted in tacit dimensions "we can know more than we can tell"; there is "a knowledge that we cannot tell."⁷⁷ In one of his most provocative essays, which he entitles "The Unaccountable Element in Science," Polanyi begins his analysis of the "unaccountable element" by referring to Kant.

[E]ven a writer like Kant, so powerfully bent on strictly determining the rules of pure reason, occasionally admitted that into all acts of judgment there enters, and must enter, a personal decision which cannot be accounted for by any rules. Kant says that no system of rules can prescribe the procedure by which the rules themselves are to be applied. There is an ultimate agency which, unfettered by any explicit rules, decides on the subsumption of a particular instance under any general rule or a general concept. And of this agency Kant says only that it 'is what constitutes our so-called mother-wit'.... He says that the way our intelligence forms and applies the schema of a

class to particulars 'is a skill so deeply hidden in the human soul that we shall hardly guess the secret trick that Nature here employs.' (Critique of Pure Reason, A.141)⁷⁸

Affirming with Kant the unaccountable element, Polanyi nevertheless posits that while this element is inexplicable, it is not unknown. The "secret trick that Nature employs" hidden deep in the human soul is discernable in the tacit roots of knowing. The unspecifiable element in all knowing hinges upon two kinds of indeterminacies: those of which we are ignorant and those which are logically unspecifiable.⁷⁹ The indeterminacies of which we are ignorant are most vividly illustrated by skills such as bicycle riding and swimming.

We cannot keep our balance on a bicycle by taking to heart that, to compensate for an imbalance, we must take a curve of which a radius is proportional to the square of the bicycle's velocity over the angle of imbalance. Such knowledge is totally ineffectual unless it is known tacitly.⁸⁰

.
[T]he decisive factor by which the swimmer keeps himself afloat is the manner by which he regulates his respiration; he keeps his buoyancy at an increased level by refraining from emptying his lungs when breathing out and by inflating them more than usual when breathing in; yet this is not generally known to swimmers. A well-known scientist ... told me how puzzled he was when he tried to discover what made him swim; whatever he tried to do in the water, he always kept afloat.⁸¹

Persons perform such skills by rules which are not known explicitly to them. They know the rules tacitly; indeed such rules are only effective when known tacitly.

The second type of indeterminacy denotes those which are logically unspecifiable. These indeterminacies inhere in the

subsidiaries of the tacit triad whose explication would destroy their function as subsidiaries. In the tacit triad their instrumental function requires non-explication; further, whenever such subsidiaries are focused upon and explicated that explication is never fully adequate to what was known tacitly.

Subsidiary or instrumental knowledge, as I have defined it, is not known in itself but is known in terms of something focally known, to the quality of which it contributes; and to this extent it is unspecifiable. Analysis may bring subsidiary knowledge into focus and formulate it as a maxim or as a feature in a physiognomy, but such specification is in general not exhaustive. Although the expert diagnostician, taxonomist and cotton-classer can indicate their clues and formulate their maxims, they know many more things than they can tell, knowing them only in practice, as instrumental particulars, and not explicitly, as objects. The knowledge of such particulars is therefore ineffable.⁸²

As this ineffable and unformalizable realm of knowledge undergirds and permeates all knowledge, we are not always able to say explicitly how we know or have accomplished a task. These clues which form the basis of our knowledge are often difficult to isolate for they are only experienced incidentally.⁸³

Both basic types of indeterminacies arise from knowing as indwelling. We live in or dwell in the subsidiary base of our knowledge whether it be hammers and probes or conceptual pre-suppositions. Such indwelling necessarily bestows inarticulability. In the context of scientific pre-suppositions Polanyi formulates the issue this way:

I suggest now that the supposed pre-suppositions of science are so futile because the actual foundations of our scientific beliefs cannot be asserted at all. When we accept a certain set of pre-suppositions and use them as our interpretative framework, we may be said to dwell in them as we do in our own body. Their uncritical acceptance for the time being consists in a process of assimilation by which we identify ourselves with them. They are not asserted and cannot be asserted, for assertion can be made only within a framework with which we have identified ourselves for the time being: as they are themselves our ultimate framework, they are essentially inarticulable.⁸⁴

Within the from-to structure, to "dwell in" embeds the knower in that which cannot be focused upon and fully explicated. One cannot "dwell in" and at the same time "attend to."⁸⁵ Thus, concomitant with the "with-in-ness" of the "from" position is indeterminacy.

The anti-Cartesian posture of this claim that all knowledge is inescapably indeterminant should not be missed. The Cartesian emphasis upon clear and distinct ideas and the Cartesian goal of a strictly justifiable knowledge are here unequivocally delegitimated. Polanyi's promulgation of the essential unspecifiable nature of knowledge must not be construed as a mitigation of truth or of the reliability of knowledge, both of which are pivotal Cartesian motivations. However, in contrast to the Cartesian trajectory of the elimination of subjective impurities through the search for objective and demonstrable truths, Polanyi grounds truth in indeterminacy. His emphatic claim is that to deny truth is demonstrable is not to say "anything goes." As he says:

"Though I deny that truth is demonstrable, I assert that it is knowable, and I have said how."⁸⁶ Unmasking the limits of formalization, Polanyi nevertheless promulgates a decisive argument for knowing truth through the tacit structure of knowing with its unspecifiable base. "[S]trictly speaking nothing that we know can be said precisely."⁸⁷

[The function of a theory of knowledge] must be to justify our reliance on our knowing ... in spite of its unspecifiable contents.... How can we justify such knowing? Clearly not in terms of its unspecifiable contents.... Any justification of it must credit ourselves with unformalizable powers of the kind that Kant acknowledged ... by calling these powers 'an art hidden in the depth of the human soul'. We must accredit in particular our competence for comprehending unspecifiable entities, which will yet reveal themselves in the future in an unlimited number of unexpected ways. This may seem absurd. To claim that we can know the unexpected may appear self-contradictory. It would indeed be self-contradictory if knowing included a capacity to specify completely what we know. But if all knowledge is fundamentally tacit, as it is if it rests on our subsidiary awareness of particulars in terms of a comprehensive entity, then our knowledge may include far more than we can tell.⁸⁸

The Cartesian drive to justify knowledge by its clarity and distinctness, to ground it in a justifiable demonstrability becomes delusionary, for essentially all explicit knowledge is anchored in unspecifiable and indeterminant knowledge.

The taproot of tacit knowing spawns two major outgrowths which characterize the knowing experience, one being the unspecifiable or indeterminant nature of knowledge. The second is the a-critical nature of knowledge. Inarticulate

knowledge cannot be critically known. Being dwelt in, tacit knowledge can never be critically established.

[T]acit knowing cannot be critical.... [S]ystematic forms of criticism can be applied only to articulate forms.... We should not apply, therefore, the terms 'critical' or 'uncritical' to any process of tacit thought by itself; any more than we would speak of the critical or uncritical performance of a high-jump dance. Tacit acts are judged by other standards and are to be regarded accordingly as a-critical.⁸⁹

The from-to dynamic necessarily implies an a-critical acceptance of the subsidiary clues being employed. Using the illustration of the intellectual tool of a textbook, Polanyi forges the link between indwelling and a-critical acceptance even more sharply:

[A]s long as our critical faculties are exercised in a from-to way by relying on this text, we shall continue to strengthen our uncritical acceptance of it. There is no mystery about this. You cannot use your spectacles to scrutinize your spectacles. A theory is like a part of spectacles; you examine things by it, and your knowledge of it lies in this very use of it. You dwell in it as you dwell in your own body and in the tools by which you amplify the powers of your body.⁹⁰

This a-criticalness must not be assumed to be unconscious. Since tacit knowledge can be consciously held knowledge, so also the knower can be consciously a-critical. The a-critical nature of knowledge accompanies the function of subsidiaries, and therefore indwelling, and not the content.

Indwelling

Although having affinity with empathy, indwelling asserts a more precise linking act than empathetic impulses.

Indwelling postulates the body and the dwelling within it and by extension the dwelling in or interiorization of other bodies or entities.⁹¹ More than empathy, although certainly indicative of empathy, indwelling portrays a deep identification commensurate with interiorization. As the fundamental and paradigmatic subsidiary elements are interior to the body in which one lives, so we come to know an external object by "pouring ourselves" into its parts, or interiorizing them.⁹² Interiorization asserts a deep level of participation.

Polanyi draws upon this concept of interiorization to explicate how we come to know the mind of another living being, be it human or animal. Knowing or understanding an other requires that the knower dwell in the unspecifiable particulars which is the other's own "dwelling place,"⁹³ therein to mentally participate in the integration of those particulars.

We therefore recognize and study the coherence of living things by integrating their motions--and any other normal changes occurring in their parts--into our comprehension of their functions. We integrate mentally what living beings integrate practically--just as chess players rehearse a master's game to discover what he had in mind. We share the purpose of a mind by dwelling in its actions. And so, generally, we also share the purposes or functions of any living matter by dwelling in its motions in our efforts to understand their meaning.⁹⁴ (emphasis added)

Through this reflexive indwelling, knowing an other fosters an experience of what Polanyi called "conviviality,"⁹⁵ a

connectional fellowship. Thus, indwelling as interiorization denotes an epistemological encounter.

Personal Knowledge

Tacit knowing requires the participation of the knower in the knowing act. Therefore, far from being a deficiency or shortcoming to be eliminated, personal participation is, rather, intrinsic in all knowing, a "true guide and master of cognitive powers."⁹⁶ While the presence of personal participation is invariant throughout various kinds of knowing, the degree of participation does vary. Linking participation to the stratified order of reality, Polanyi adduces the progressive increase of participation of the knower as the objects to be known partake of the higher levels of reality, as the objects evidence more "equal sharing of existence."⁹⁷ The variance occurs in indwelling as the indwelling which engenders the knowing of a star or other inanimate matter is less deep than the indwelling which engenders the knowing of humans, art, or religious experiences. Thus, the depth of indwelling, and thereby of personal participation, highlights an epistemological continuum from the low level of indwelling, which is commensurate with the observation of microscopic elements, to the highest degree of indwelling, which is commensurate with religious worship.⁹⁸

Personal participation within the knowing act arises from the tacit triad and its incipient indwelling dynamic.

Correlative to this premise is Polanyi's epistemological benchmark of commitment as inherent in all knowing. Polanyi roots his polemical advocacy for belief as fundamental to knowing in Augustine, crediting Augustine with the inauguration of this "post-critical philosophy."⁹⁹ The Augustinian epistemological axis, "unless you believe, you shall not understand," was undercut by Locke's distinction between knowledge and faith. Locke claimed:

How well-grounded and great soever the assurance of faith may be wherewith it is received; but faith it is still and not knowledge; persuasion and not certainty. This is the highest the nature of things will permit us to go in matters of revealed religion, which are therefore called matters of faith; a persuasion of our own minds short of knowledge, is the result that determines us in such truths.¹⁰⁰

Polanyi finds the truncation embedded in this Lockean distinction to be epistemologically disastrous and calls for a restoration of belief as the ground of all knowledge.

Belief is here [in Locke] no longer a higher power that reveals to us knowledge lying beyond the range of observation and reason, but a mere personal acceptance which falls short of empirical and rational demonstrability. The mutual position of the two Augustinian levels is inverted.... Here lies the break by which the critical mind repudiated one of its two cognitive faculties and tried completely to rely on the remainder. Belief was so thoroughly discredited that, apart from specifically privileged opportunities, such as may be still granted to the holding and profession of religious beliefs, modern man lost his capacity to accept any explicit statement as his own belief. All belief was reduced to the status of subjectivity: to that of an imperfection by which knowledge fell short of universality. We must now recognize belief once more as the source of all knowledge.¹⁰¹

All knowledge is rooted in antecedent beliefs and cannot escape these fiduciary sources.

Polanyi weaves his polemical tapestry of the fiduciary embeddness of all knowing by use of four primary threads. One of those threads is the pre-suppositional belief structure underlying all knowing acts. Every knowing act has its genesis in the belief that there is something there to be understood.¹⁰² This underlying belief structure is further exposed in the realization that the knowing act is necessarily bounded by and shaped within a set of assumptions which are socially constructed by the knower's contextual world.

I accept it moreover as inevitable that each of us must start his intellectual development by accepting uncritically a large number of traditional premises of a particular kind; and that, however far we may advance thence by our own efforts, our progress will always remain restricted to a limited set of conclusions which is accessible from our original premises. To this extent, I think, we are finally committed from the start.¹⁰³

Similar to learning a language, all knowing resides within a pre-suppositional context; the realities to be known are known only within the pre-suppositions which one brings to the knowing act. Thus, such pre-suppositions are logically prior to explicit knowledge formulations. In a provocative explication of this premise Polanyi makes the observation:

We do not believe in the existence of facts because of our anterior and securer belief in any explicit logical presuppositions of such a belief; but on the contrary, we believe in certain explicit presuppositions of factuality only because we have discovered that they are implied in our belief in the existence of facts.¹⁰⁴

A second thread in the fiduciary tapestry of knowing is the thread of the upholding of one's knowledge. Predicated upon the essential rootage of knowing in the unspecifiable subsidiary elements, the premise that knowledge fundamentally is upheld not by proven axioms but by belief and commitment is indubitable. At its ultimate level knowledge is undemonstrable and therefore is sustained through commitment to the clues which one indwells. In the context of modern physics, Polanyi frames the premise in this way.

[W]e espouse such a principle [of "final cause"] in modern physics, not because we see its logical entailment in the concepts of matter or energy, but rather because we believe -- contrary to the ancients -- that physical events do move in this direction. We "believe" this rather than "prove" it from careful observation.... We must assume an equation before we are able to determine the values of any of the variables involved. We thus have no basis for the measurement of any "forces"-- independent of the use of this principle--.... The principle itself is certainly never proved. We believe it to be true, however, because on the whole it seems more "fit" to us than alternative principles for making sense of events in the inanimate realm.¹⁰⁵

Essentially, the nature of knowledge is confessional for "at the moment of its being held it cannot be fully justified."¹⁰⁶ To say that "P is true" is to say, in reality, "I believe P."¹⁰⁷ John Apczynski formulates this premise as the meaning of validation.

The ultimate criterion for establishing the validity of any intellectual endeavor is the personal affirmation of the knower. The stress on "ultimate" is deliberate and important. When it is a question of validating an articulate framework with its implicit world view, there are no formal criteria for establishing some sort of absolute certainty

because the application of such criteria necessitates the prior involvement of the knower in accepting them.¹⁰⁸

Indicative of this necessarily un-provable nature of knowledge is the fundamental role of assumptions which permeate both scientific and non-scientific knowing. For some theorists, knowledge which is laced with assumptions, personal commitments, and beliefs cannot claim to be rational nor legitimate knowledge. However, for Polanyi such incipient "fiduciary hazards" cannot negate knowledge;¹⁰⁹ for "our very upholding makes it so, and if it did not, we could not proceed at all."¹¹⁰

A third thread interwoven within the fiduciary tapestry of knowing is the teleological thread which guides the knowing act. Polanyi asserts that all attempts to make sense of reality are driven by a purposive tension. This purpose essentially functions to pull us forward as we pour ourselves into clues and reach for their integration.¹¹¹ The telic dimension of this purposive drive portrays an inherent committal of the knower to what he/she senses is "out there." Knowers are pulled by what they believe can be understood and by their passionate commitment to its perception.¹¹²

The fourth thread by which Polanyi weaves this fiduciary tapestry of the knowing act is the thread of a-critical knowledge. Polanyi grounds his apologetic for a-critical belief in the Cartesian ideology of doubt. The Cartesian critical period of philosophy purged knowledge of all that was

held "merely on trust" in order to adhere to only that which was "grounded in reason."¹¹³ Since reason depends upon the hermeneutical tool of criticalness or doubt, belief cannot be rational. Polanyi finds this Cartesian claim untenable and embarks on a critique of doubt. Naming his task as "restor[ing] to us once more the power for the deliberate holding of unproven beliefs,"¹¹⁴ Polanyi unmasks the inherent self-illusion of the skeptic. The skeptic cannot escape the fiduciary rootedness of his/her "proven" knowledge.

The first point in my critique of doubt will be to show that the doubting of any explicit statement merely implies an attempt to deny the belief expressed by the statement, in favour of other beliefs which are not doubted for the time being.¹¹⁵

What one accepts as proof, what one ignores as irrelevant, what one credits as reasonable, how one goes about obtaining objective knowledge, all betray the underlying belief structure of even the heartiest of skeptics.

[T]here exists no principle of doubt the operation of which will discover for us which of two systems of implicit beliefs is true--except in the sense that we will admit decisive evidence against the one we do not believe to be true, and not against the other. Once more, the admission of doubt proves here to be as clearly an act of belief as does the non-admission of doubt.¹¹⁶

.
Since the sceptic does not consider it rational to doubt what he himself believes, the advocacy of 'rational doubt' is merely the sceptic's way of advocating his own beliefs.¹¹⁷

Beneath all explicit knowledge statements, even those derived from the strictest application of the principle of doubt, lies

the will to believe, for at the ground of all knowledge there are no proofs to warrant the conclusions we uphold, only an "extensive set of a-critically accepted beliefs."¹¹⁸

Polanyi explicates his concept of personal knowledge through its constitutive qualities of participation and commitment. In light of these constitutive tenets three remaining epistemological themes which are resonant in the concept of personal knowledge need to be given voice. One resonating theme engendered by knowledge which is personal is the denial of epistemological detachment. As previously noted, Polanyi seeks to delegitimize the positivistic ideal of detachment. The lever he uses to pry the detachment construction loose from its foundation is the concept of personal knowledge with its battering rod of participatory and fiduciary-rooted knowing.

We have thus shown that the processes of knowing (and so also of science) in no way resemble an impersonal achievement of detached objectivity. They are rooted throughout (from our selection of a problem to the verification of a discovery) in personal acts of tacit integration. They are not grounded on explicit operations of logic. Scientific inquiry is accordingly a dynamic exercise of the imagination and is rooted in commitments and beliefs about the nature of things. It is a fiduciary act. It is far from any skepticism in itself. It depends upon firm beliefs.... Science is not thus the simon-pure, crystal-clear fount of all reliable knowledge and coherence, as it has for so long been presumed to be. Its method is not that of detachment but rather that of involvement. It rests, no less than our other ways of achieving meaning, upon various commitments which we personally share.¹¹⁹

We know, not by detachment, but by indwelling and by belief. Harry Prosch frames this issue as a reversal of the traditional epistemological expectation.

This point, were we once fully to grasp and internalize it, i.e., to dwell in it, would cure us, Polanyi believed, once and for all of our obsession with detached objectivity as the goal of knowledge. We would then suppose we knew only what we were not detached from, i.e., what we became aware of only through our actual dwelling in its particulars.¹²⁰

Thus, epistemological detachment harbingers self-contradiction; for indeed, we know only that which we are not detached from.

A second epistemological theme resonant within the concept of personal knowledge is the theme of the inherent possibility of error. At one point Polanyi names the principal purpose of his book Personal Knowledge to be: "to achieve a frame of mind in which I may hold firmly to what I believe to be true, even though I know that it might conceivably be false."¹²¹ Thus it is that the epistemological structure of participatory and committal knowing addresses how we "may firmly believe what we might conceivably doubt."¹²² By virtue of every knowing act being engendered by the tacit and passionate involvement of the knower, the possibility of error is a necessary element within the very structure of how knowing occurs. Epistemological risk is unavoidable for it pervades the very knowing experience itself. Whether in the knowing expressed through faith or through scientific discoveries, all knowing is fallible.

So all true knowledge is inherently hazardous, just as all true faith is a leap into the unknown. Knowing includes its own uncertainty as an integral part of it, just as, according to Tillich, all faith necessarily includes its own dubiety.¹²³

In an unequivocal denial of Cartesian epistemology, Polanyi promulgates that there is no indubitable knowledge. In fact, the possibility of error is a mark of higher and not lower powers of the mind,¹²⁴ for the deeper the tacit act, the greater the possibility of mistaken conclusions. Definitively, then, knowing allows no certitude. "A knower enters into the act of knowing with an element of uncertainty, and exits with the same fundamental uncertainty."¹²⁵ Since the risks inhere in the very conditions of the knowing act, the knower can be justified in simultaneously being firmly and passionately committed and being aware of the fallibility of that epistemological commitment.

Personal knowledge resonates with a third epistemological theme which has not yet been named. Knowing which is constituted by tacit integration intimates circularity and the paradox of self set standards. Knowledge both emerges from and is justified by antecedent beliefs. The circularity of knowing is not a sign of imperfection, but rather, an indication of the nature of knowing which intrinsically resides in a fiduciary framework. Illustrating this premise through mathematical knowledge, Polanyi posits:

Remember also what we have found about the axiomatization of mathematics; namely that it merely declares the beliefs implied in the practice of mathematical reasoning. The axiomatized system is

therefore circular: our anterior acceptance of mathematics lends authority to its axioms, from which we then deduce in turn all mathematical demonstration.¹²⁶

Or, in the context of his analysis of probability he makes the point, tongue-in-cheek, but just as sharply honed: "There is a story of a dog-owner who prided himself on the perfect training of his pet. Whenever he called: 'Here! will you come or not!' the dog invariably either came or not."¹²⁷ Paradoxically, knowing resides in self set standards. The human knower creates the thought and the thought creates the human knower; the consensus of the group shapes the participant and the participant reinforces the consensus. Circularity of epistemological justification ultimately brings one to the self-accrediting fiduciary act. Ultimately, no other justification for knowledge can be claimed but that the knower confidently holds it.

It should not be too difficult to justify my scientific beliefs ... in terms of some logically antecedent beliefs of my own, this justification itself being acknowledged once more to involve a fiduciary act of my own.... [The objection], 'You can believe what you like' ... brings us back once more to the paradox of self-set standards; if the criteria of reasonableness, to which I subject my own beliefs, are ultimately upheld by my confidence in them, the whole process of justifying such beliefs may appear but a futile authorization of my own authority. Yet so be it. Only this manner of adopting the fiduciary mode is consonant with itself; the decision to do so must be admitted to be itself in the nature of a fiduciary act.¹²⁸

Antecedent beliefs presuppose their conclusions and conclusions reinforce the antecedent beliefs. Personal

knowledge necessitates circularity. Marjorie Grene cogently reminds us that given that necessity, it is the breadth and inclusiveness or exclusiveness of the circle, and not its circularity, that can be challenged.¹²⁹

Response to Dualisms

Polanyi did not develop his epistemological paradigm as a response to the dualistic underpinnings of Cartesian and post-Cartesian philosophical thought. In fact, the references to the specific dualisms of subject-object, mind-body, and reason-affect are minimal throughout the Polanyian corpus. At the same time, the comprehensive and wholistic epistemological vision which Polanyi expounds undercuts dualistic thinking. At times Polanyi himself does not fully incorporate the wholeness of his vision and becomes vulnerable to some of the traditional dualisms, as will be noted in the following discussion. But it is the erosion of the very grounding upon which the dualisms rest that this epistemological paradigm exacts.

Subject-Object Dualism

The issues by which the subject-object dualistic tension are explicated within this paradigm revolve around the axis of subjectivism and objectivism. Many of the problematic issues in objectivism have previously been named through the explication of Polanyi's polemical attempt to invalidate the positivistic ideology. The problematic issues in subjectivism need also to be made explicit. Polanyi's epistemology has

often been critiqued as being subjectivistic. When the knower stakes his/her grounds of knowing upon personal biases and within a context of in-determinate and a-critical beliefs how can that one avoid falling into relativism and subjectivism? John Apczynski penetrates this issue by setting it in its historical and epistemological frame.

From at least the time of Newton's great discoveries in physics, man [sic] began to see that creative insight consisted in more than simply "looking out there." That what we experience is determined to some extent by the intelligible forms we use to shape our perception was becoming increasingly clear to Western consciousness. The problem for knowledge then is how this is done and what happens to us and to "reality" (insofar as it is known) while we do it. For it is quite conceivable that in our intelligent shaping of our perceptions of reality, we so affect them that these experiences are valid only for describing our mental states, not for telling us what is "really out there."¹³⁰

As the personal involvement of the knower is admitted how can the resultant knowledge be accredited as anything more than sheer subjectivism? Polanyi recognizes this problem as the existentialist dilemma: "how values of our own choosing can have authority over us who decreed them."¹³¹ And he promulgates a decisive counter to its threat. The avoidance of the immanent threat of falling into subjectivism comes from discerning the process by which the knower comes to know something is true, the process of personal knowing.¹³²

The landscape of personal knowledge is inclusive of several contours which blur the dualistic tensions of subject-object, and the commensurate tensions of subjectivism-

objectivism. Before explicating the contours of that landscape the distinction of subjective and personal must be firmly etched. For Polanyi they are not to be equated. Subjectivity denotes states which make no claims external to the subject, states such as dreams, feelings of pain, etc. Personal denotes beliefs and commitments held by the subject which have validity external to the subject.¹³³ While both of these experiences may be named subjective, in the sense that they require a subject, their distinctive usage by Polanyi lies at the heart of his response to the critique of subjectivism.

In the landscape of personal knowledge three contours are prominent in their function of blurring the tensions of the subject-object dualism: realism, responsible and universal intent, and structure of commitment. More specifically, the intermingling of these three functions to dissipate the dualism. Thus, the landscape of personal knowledge with its three contours is viewed as: the attempt by a subject to make contact with a reality through responsible and universal intent within a structure of commitment. Focusing upon each contour individually will bring depth to the perception of this interactive landscape.

The assertion that all knowing is rooted in the act of personal judgment can claim objectivity by virtue of a strong adherence to the concept of reality. Polanyi insistently holds in tandem personal involvement and external reality as

both constitutive of how one comes to know. Personal knowing is making "contact with a reality which is felt to be there already to start with, waiting to be apprehended," a "hidden reality."¹³⁴ Such reality is external to the knower. Further, since it exists independent of the knower, it is not constructed by the knower, but discovered. Polanyi introduces one of his articles with this apologetic:

The purpose of this essay is to re-introduce a conception which, having served for two millennia as a guide to the understanding of nature, has been repudiated by the modern interpretation of science. I am speaking of the conception of reality. Rarely will you find it taught today, that the purpose of science is to discover the hidden reality underlying the facts of nature. The modern ideal of science is to establish a precise mathematical relationship between the data without acknowledging that if such relationships are of interest to science, it is because they tell us that we have hit upon a feature of reality. My purpose is to bring back the idea of reality and place it at the centre of a theory of scientific enquiry.¹³⁵

The goal of knowing dwells in the desire to know what is other and to know the other as the other really is.¹³⁶

Polanyi heavily stresses the external and independent character of reality. This intensive accent leads him into a strange twist in the definition of reality. The character of externality and independence does not negate the knowing of reality. For there is an innate affinity in the knower for making contact with this reality.¹³⁷ Correlative to the indeterminacies of subsidiary indwelling by the knower is the inherent indeterminacies of reality. Definitively, that which is real portrays an "indefinite range of unexpected

manifestations."¹³⁸ Thus, this structure of kinship between an external and independent reality and the knower is predicated upon reality essentially having more to do with being able to manifest itself in new ways in the future than it does with tangibility.

This capacity of a thing to reveal itself in unexpected ways in the future I attribute to the fact that the thing observed is an aspect of reality, possessing a significance that is not exhausted by our conception of any single aspect of it. To trust that a thing we know is real is, in this sense, to feel that it has the independence and power for manifesting itself in yet unthought of ways in the future. I shall say, accordingly, that minds and problems possess a deeper reality than cobblestones, although cobblestones are admittedly more real in the sense of being tangible. And since I regard the significance of a thing as more important than its tangibility, I shall say that minds and problems are more real than cobblestones.¹³⁹

Stones are less real than minds for they have a narrower range of indeterminacies.¹⁴⁰ One might question why Polanyi needs to posit the distinction between stones and minds in terms of reality and not in terms of value. Levels of value would seem to serve to identify levels of indwelling. But for Polanyi the issue of external and independent reality requires degrees of reality such that to the degree that an object is intangible, indeterminant, it is real. In addition to functioning as the linking pin in the structure of kinship between the knower and reality, the indeterminacies of reality for Polanyi also function to sustain the independence of reality. This independence of reality from the knower is

buttressed by reality's definitive capability to escape the control of the knower. Ontologically, reality will always be more than is known.

This externality and independence of reality as it is present in the knowing act actualizes one of Polanyi's counters to the charge of epistemological subjectivism. But an additional nuance of his definitive concept of reality further bolsters his claim not to be subjectivist. Rather than existing as a static object, reality enters the knowing act by drawing the knower to it. The clues embedded within the reality to be known energize the knowing experience.

This is, in fact, my definition of external reality: reality is something that attracts our attention by clues which harass and beguile our minds into getting ever closer to it, and which, since it owes this attractive power to its independent existence, can always manifest itself in still unexpected ways.¹⁴¹ (emphasis added)

Discerning reality as exerting an active pull upon the knower through its compelling clues, Polanyi further tethers knower and known, subject and object, together in a structure of kinship. The lure of reality, the object, matches the projective drive or craving of the knower, the subject, to perceive or make sense. Contact is made; knowing occurs. This "beckoning of the real"¹⁴² negates subjectivism by crediting the object with a force from outside the mind of the knower, a force which is intrinsic to the knowing act.

Polanyi clearly anchors personal knowledge in a concept of reality. This realism undergirds the act of knowing and

effectively counters the subjectivist vulnerability incipient within an epistemology grounded upon personal fiduciary judgments. Maben Walter Poirier argues that Polanyi presents an objectivist epistemology. While the attaching of objectivist to the Polanyian epistemology is problematic, given Polanyi's own polemical argument against objectivism, Poirier's issue is well taken.¹⁴³ Polanyi's contention is against neutralism, against the ideological premise that the only reliable knowledge is that which is guaranteed by logic or procedural rigor to be pure of subjective distortion.¹⁴⁴ But Polanyi never disputes objective reality and its epistemological presence. Objective reality necessarily inheres in all knowing.

In the landscape of personal knowledge the tensions of the subject-object dualism are blurred through the intermingling of three contours. The realism contour of this landscape merges with a second contour, personal and universal intent. Personal knowing is engendered by the knower's personal commitment to seek and accept that which he/she believes to be impersonally given, to be reality.¹⁴⁵ Thus, the personal participation embedded in the knowing act is not arbitrary, nor random, but rather is a responsible act which claims universal validity by virtue of its intent to establish contact with reality.¹⁴⁶ Further, this universal intent delimits subjective interests by its belief that any other knower who stands in the same place with the same skills and

tools will also reap the same knowledge.¹⁴⁷ Such universal intent authenticates knowing as responsible, as distinct from knowing which is irresponsible. In taking responsibility the knower finds him/herself accountable to both reality and to a community of peers for the claim that this knowledge is indeed ontologically grounded.

The "sense of responsibility exercised with universal intent" amplifies the obligatory nature of personal knowing. Knowing becomes a form of obedience to reality and its concomitant truth. Polanyi contends that in the exercise of such responsibility subjectivism is delegitimated, for knowing crystallizes a self-compulsion to submit to external reality.

The paradox of self-set standards is eliminated, for in a competent mental act the agent does not do as he pleases, but compels himself forcibly to act as he believes he must. He can do no more, and he would evade his calling by doing less.¹⁴⁸

In the context of exploring scientific discoveries, Polanyi reinforces responsible personal knowing as submission to the control of that which is impersonal.

Such are the responsible choices made in the course of scientific inquiry. The choices are made by the scientist: they are his acts, but what he pursues is not of his making; his acts stand under the judgment of the hidden reality he seeks to uncover. His vision of the problem, his obsession with it, and his final leap to discovery are all filled from beginning to end with an obligation to an external objective. In these intensely personal acts, therefore, there is no self-will....

Many writers have observed, since Dewey taught it at the close of the last century, that, to some degree, we shape all knowledge in the way we know it. This appears to leave knowledge open to the whims of the observer. But the pursuit of science

has shown us how even in the shaping of his own anticipations the knower is controlled by impersonal requirements. His acts are personal judgments exercised responsibly with a view to a reality with which he is seeking to establish contact.¹⁴⁹

Such acts of responsible knowing safeguard knowledge from egocentric biases and actualize a rational objectivity. Thus, in contrast to objectivism, rational objectivity is not authenticated by impersonal and logical procedures through which one arrives at knowledge, but rather by one's personal submission to what one believes to be externally given.

The third contour intermingled within the landscape of personal knowledge which blurs the tensions of the subject-object dualism is the contour of the structure of commitment. This structure has been previously explicated in its tacit triad and fiduciary rootage. Here its explicit functioning in blurring the subject-object dualism needs only to be summarized. Knowing essentially is a "confession with universal intent."¹⁵⁰ The indwelling of subsidiaries activates personal judgments which are anchored in a-critical beliefs. Thus, inherent within all knowing is a personal involvement of the subject. Knowledge of an object cannot claim to be purely of the object. This personal coefficient not only shapes, but also upholds one's knowledge. It thus signifies the incipient responsibility of the knower in the knowing act. Polanyi repeatedly critiques objectivism for attempting to escape this responsibility by resorting to "objective criteria of validity."¹⁵¹ Ultimately, it is not

impersonal and objective criteria, but rather "I believe" that is responsible for knowledge.

The landscape of personal knowledge with these three contours functions to dissipate the tensions of the subject-object dualism. Each contour brings to that dissipation crucial eroding components. But it is the effect of the comprehensive vision of the landscape which exerts full strength in dismantling the dualism. While positivism asserts the goal of knowing to be bridging the gap between subject and object, personal knowing rules out any gap from the beginning.¹⁵² In the triadic knowing structure, a subject with fiduciary energies is fundamentally linked to an object expressive of independent and external reality through the indwelling of subsidiaries with responsible and universal intent. Knowing is not crossing a gap, but rather indwelling the subsidiary base of an object of reality and focusing upon its integration, the knowledge of which is shaped by the responsible indwelling of the subject. Thus, while subject and object have epistemological distinctions, the knowing act is predicated upon their inter-relation and not upon the "conquest of an alien object."¹⁵³

The comprehensive vision of the landscape of personal knowing also blurs the tensions of the subject-object dualism by the mutual requirement of its personal and universal components. Because personal knowing requires the universal dimension, subjectivism is negated. Because universal

knowledge cannot be ascertained without personal judgments, objectivism is negated. The dualism itself becomes absurd. Polanyi stakes this mutual requirement of personal and universal in the self compulsion of the responsible knower.

We have seen that the thought of truth implies a desire for it, and is to that extent personal. But since such a desire is for something impersonal, this personal motive has an impersonal intention. We avoid these seeming contradictions by accepting the framework of commitment, in which the personal and the universal mutually require each other. Here the personal comes into existence by asserting universal intent, and the universal is constituted by being accepted as the impersonal term of this personal commitment.

Such a commitment enacts the paradox of dedication. In it a person asserts his rational independence by obeying the dictates of his own conscience, that is, of obligations laid down for himself by himself. Luther defined the situation by declaring, 'Here I stand and cannot otherwise'.... The freedom of the subjective person to do as he pleases is overruled by the freedom of the responsible person to act as he must.¹⁵⁴

This "logic of self compulsion with universal intent" holds subject and object in mutual relation, distinct but nonseparable. Epistemologically, to destroy one is to destroy the other. In knowing discerned as "self compulsion with universal intent," personal implicates impersonal; impersonal motivates personal. Subject and object in personal knowing symbiotically intertwine.

Historically the subject-object dualism has spawned several epistemological sub tensions. The exploration of Polanyi's response to the subject-object dualism needs to be inclusive of his understanding of these correlative tensions.

Three will be explicated here: internal-external, facts-values, and science-religion.

In contrast to Cartesian epistemology which establishes the discontinuity between subject and object, self and world, by positing the externality of the object, Polanyi asserts the continuity of subject and object, self and world, by weakening the epistemological impact of the externality of the object. The internal-external tension is recast as an experience of indwelling the subsidiary base of external objects. Therein, external objects, such as probes, come "on our side," as our body merges with our knowledge of other objects.¹⁵⁵ One of Polanyi's most incisive illustrations of this recasting is explicated through the way a body is known. While a subject knows his/her own body, as internal knowledge, a physician, or another outsider, knows that body, as external knowledge. However, these experiences are not illustrative of two kinds of experience, one from inside, and the other from outside. Rather, they portray a continuous range of indwelling, from a higher grade of indwelling to a lower grade.¹⁵⁶ Both internal and external knowing are forms of indwelling. As Robert Innis so concisely posits: "Consciousness is not a form of inner perception with its attendant duality of perceiver and perceived, but an inner experience in the mode of indwelling."¹⁵⁷ Here, externality functions as a category of the degree of indwelling rather than of the ontological separation between subject and object.

Spatial categories of inside and outside are reductionistic when one understands how knowing does occur. Subject and object cannot reside in spatial categories when knowing is discerned through the subsidiary-focal relationships of the tacit triad.¹⁵⁸ Not only are external objects made interior through indwelling, but that which is interior or indwelt is projected outward.¹⁵⁹ In the from-to structure outer-directedness is instilled as the meaning of interiorization. Thus, the spatial categories become mixed and meaningless in the subsidiary-focal relation. Further, neither the interior subsidiaries nor the outer focal object can be equated with spatial categories since sometimes the focal is spatially interior to the knower and sometimes the subsidiaries are spatially external. The result of broadening the external-internal concepts beyond spatial categories is an epistemology where the Cartesian "problem of the external world" loses credibility. Knowledge is not bounded by what is in oneself. Solipsism has no epistemological ground. For Polanyi the "I" in "I think" is not enclosed within a inner world of meaning. Rather it is integrally linked to an outer world, both through in-dwelling of external subsidiary particulars and through projected focal meaning.

A second correlative tension of the subject-object dualism is the epistemological tension between facts and values. The separation of facts and values is deeply entrenched in human knowing by the Cartesian vision of subject

and object.¹⁶⁰ As constitutive of two realms, facts and values become equated with knowing and valuing, two distinct processes. Reality is the ground of the former, and science its commensurate discipline; "subjective fancies" is the ground of the latter, and humanities its commensurate discipline.¹⁶¹ Harry Prosch makes the observation that in such a dualistic ethos values are not considered as objective and therefore are rejected as objects of knowledge. He continues:

Perhaps the pervasive attitude toward values is best instanced by my beginning students who almost universally seem to think that everyone has "their" own moral values, just as they have their own preferences in foods, clothes, sexual orientations, and pop music. These students' own moral values, if they have any, they often tend to hold on to by no other means than Peirce's method of tenacity.¹⁶²

Polanyi finds this separation epistemologically invalid (as well as its moral and social implications disastrous), and asserts that as we discern how knowing occurs, we find that values have no less reality than factual perceptions. Since personal participation undergirds the knowing embedded in both the sciences and the humanities, the "meanings created in the sciences stand in no more favored relation to reality than do meanings created in the arts, in moral judgments, and in religion."¹⁶³ The knowing of both facts and values rests in the same tacit process.¹⁶⁴ This common tacit structure does manifest a continuum of degree of participation in forms of knowing. But a continuum manifests a linking continuity, a continuity which makes the differences between forms of

knowing to be differences of degree and not kind. Thus, neither facts nor values are subjective nor objective; both are personal.

The third epistemological sub tension spawned by the subject-object dualism is between science and religion. In the dualism of fact-value, the epistemological denigration of value is linked with the suspicion of religious knowing. Thus, the invalidation of the fact-value dichotomy implicates the invalidation of the science-religion dichotomy.

Polanyi's explicit response to the science-religion tension is ambivalent, at best, and contradictory, at worst. On the one hand, he follows his non-dualistic epistemological vision to its inherent conclusion that the separation of religion and science must be discarded.

The traditional division between faith and reason, or faith and science ..., reflects the assumption that reason and science proceed by explicit rules of logical deduction or inductive generalization. But I have shown that these operations are impotent by themselves, and I could add that they cannot even be strictly defined by themselves. To know is to understand, and explicit logical processes are effective only as tools in search of the solution of a problem, commitment by which we expand our understanding and continue to hold the result. They have no meaning except within this informal dynamic context. Once this is recognized, the contrast between faith and reason dissolves, and the close similarity of this structure emerges in its place.¹⁶⁵

Given the essential participation of the knower in scientific and religious knowing there is a common ground for the two forms of knowing.¹⁶⁶ But, on the other hand, Polanyi "blunt[s]

the edge of his own sword" by explicating a fundamental epistemological difference between science and religion.¹⁶⁷ In Meaning, his last book, Polanyi explicates this difference as a difference in the personal participation embedded in each, a difference not in degree but in kind. The personal participation present in religious knowing (and the knowing of the arts) and that present in other forms of knowing evidence two different kinds of use of the subsidiary-focal structure.¹⁶⁸ Naming the two as "self-centered" and "self-giving," Polanyi posits their distinction to be basic.

The distinction resides in the functioning of the subsidiaries. In self-centered knowing the subsidiaries function as pointers toward the focal object which has intrinsic interest. The subsidiary clues project away from the self as center and thereby engender self-centered knowing. This kind of knowing is illustrated throughout the Polanyian corpus in examples of physiology, stereo pictures, classifications, skills, use of probes, etc.¹⁶⁹ In contrast, the subsidiaries in self-giving knowing do not function to point toward a focal object, but rather function to draw the knower into the clues themselves and as knowers surrender themselves to those clues they become carried away by their meaning. Symbols function as self-giving knowing. The knower does not find the focal object of the symbol to have intrinsic meaning, but rather the subsidiary clues themselves. Flags, tombstones, and other symbols illustrate this self-giving

knowing.¹⁷⁰ Since in self-centered knowing the knower projects onto a focal object external and independent of him/herself, that knowing can be justified through verification processes. Since in self-giving knowing the knower is him/herself carried away, the knowing is justified through validation processes. Harry Prosch frames the process this way:

In ... self-giving, we find we are, as [Polanyi] put it, "carried away" by the object--whether it is a work of art, a symbol, a rite, or a god. And it is this capacity of the object of our focal attention to "carry us away," to "move us deeply," which makes our understanding of it, our meaningful integration of it, into a focal object valid for us. We validate it on those grounds, rather than verify our views of it as adequate to describing it as a thing existing in itself independently of us.¹⁷¹ (emphasis added)

Polanyi's dualistic posture in regard to science and religion in the latter part of his life is both puzzling and problematic. His distinction between self-centered and self-giving knowing creates a "fissure in the unity of his system."¹⁷² While distinctions between scientific and religious knowing are certainly justified, the anchoring of those distinctions in epistemological and metaphysical categories undercuts the primacy of his basic premise of the tacit and personal structure with its commensurate non-dualism of science and religion. This breakdown in the non-dualistic vision seems to be nourished by two dynamics. One, in Meaning Polanyi does not draw upon the category of "degrees of indwelling." The obscuring of this continuum of participation in favor of accenting the differences in the way participation

occurs engenders the dualism of science and religion. The category of "degrees of indwelling" is fundamental in the paradigm. Its efficacy in maintaining a non-dualistic epistemological structure makes its absence or de-emphasis of major consequence.

A second dynamic which engenders this breakdown in the non-dualistic vision is Polanyi's personal religious and theological beliefs. While Polanyi finds it necessary to claim an independent and external reality underlying the knowing act, he finds it unnecessary, indeed even dubious, to claim any independent reality for the supernatural. Metaphysically, religion has no grounds outside the believer.¹⁷³ In one of his notes for a lecture he writes:

The meaning which the Bible has and the ritual of religious service ... may be deeply moving to us. It can be so, if we turn to it as an association of symbols....

This meeting and this argument have made me think of the way I would wish to be buried.... "Corruptible puts on incorruptible," "death, where is they [sic] victory?" I now realize how revealing such words are of our destiny even though there is no information given by them. And I can think now of the depth of my whole life being expressed by the words, spoken by the congregation on their knees, "Our Father which art in heaven," and so on, though literally I believe none of the Lord's prayer.¹⁷⁴

Harry Prosch reflects upon his several conversations with Polanyi:

I recall myself trying upon several occasions ... to convince him that no religion could be founded without its including somewhere in its lore the notion of its own real supernatural origin, and that the supernatural was therefore a necessary feature

of any religion that established itself. I never succeeded in getting him to admit this. He really had a difficult time understanding a belief in the factual reality of the supernatural in religion as anything much more than magic or superstition. His own view of the magnificent sweep of religion ... seemed no doubt to him to belie this necessity. He was enthralled by the imaginative, transnatural union of incompatibles involved in it, and did not seem to find the supernatural elements in this vision to be any more necessary to hold as statements of fact or of reality than he found the story in poems and plays necessary to hold as statements of fact or reality. Thus neither poetry nor religion seemed to him to be important sources for further historical or scientific knowledge of realities preexisting somehow independently of our own existence, nor to rest for their validity upon such knowledge.¹⁷⁵

Polanyi's distinction between the metaphysical grounding of scientific knowing and of religious knowing engenders a radical dualism in his own epistemology. Believing in an independent reality to be known in one instance and no independent reality to be known in another instance creates an epistemological rupture too great to be held together by the linking continuities of degrees of indwelling. Thus, Polanyi himself by virtue of his own theological beliefs is unable to maintain a non-dualistic paradigm vis-a-vis the science-religion tension. Only by restoring the belief of the existence of a supernatural reality external to the religious knower can the epistemological paradigm function in its depth for religious knowing as it does for other forms of knowing.

Mind-Body Dualism

Polanyi's epistemological paradigm asserts a mixed theory in response to the mind-body dualism. On the one side,

Polanyi himself advocates the retention of the dualism between mind and body. On the other side, his conceptual premises mitigate a mind-body dualistic relationship. The following discussion will explore each side of this incipient tension in the paradigm. Before that exploration, however, a brief articulation of how mind and body are used by Polanyi will be sketched.

Polanyi links mind essentially to the tacit structure of meaning. Mind is defined as the from-to activity by which that tacit structure operates. Thus, indwelling is the definitive function of the mind, as the mind tacitly uses the body or other subsidiaries. The tacit structure of meaning is necessarily mental.¹⁷⁶ Because mind essentially functions within this from-to dynamic, it cannot be equated to mechanical operations such as those executed by computers. The tacit integration which constitutes comprehension necessitates a mind whose thinking activity functions by an unspecifiable rootage and therefore is non-reducible to specifiable, mechanical mental responses.¹⁷⁷

Epistemologically, the body for Polanyi is understood in two ways, instrumentally and paradigmatically. Instrumentally, the body functions as the primary subsidiary for all knowing. It is the "ultimate instrument of all our external knowledge, whether intellectual or practical."¹⁷⁸ Further, in its essential subsidiary role the body becomes an epistemological instrument which serves not only to give knowledge of other

things but also to give knowledge of itself. Polanyi repeatedly asserts: "our body is the only assembly of things known almost exclusively by relying on our awareness of them for attending to something else" (emphasis added).¹⁷⁹ We know our body as we use it in the tacit act of comprehending what is external to it.

Paradigmatically, the body serves to illumine how all subsidiaries function in the knowing process. Polanyi variously frames this dynamic as "assimilating external instruments to the body," "using subsidiaries as we use our body," making the external object "an extension of our body." The way in which we use our body is the way we can and do use other instruments in order to gain knowledge. When we begin riding a bike or using a probe, it is external to us. But, by a restructuring of our consciousness the bike or probe becomes an extension of our bodies and we become conscious of it and its movements in the same way we are conscious of our bodies.¹⁸⁰ The primary subsidiary nature of the body becomes paradigmatic of all tacit integrations.

As previously noted, Polanyi supplies the framework for both the reaffirmation and the refutation of the mind-body dualism.¹⁸¹ Two fundamental linchpins hold the dualism in tact. The first linchpin fortifying the dualism is the mutual exclusivity of subsidiary and focal knowledge. Polanyi forcefully posits the distinction of subsidiary and focal knowledge to be evidence of a mind-body dualism. In the

structure of tacit knowing mind and body are "not two aspects of the same thing," but are sharply and profoundly different.¹⁸² In his classic explication of the dualism embedded in tacit knowing, Polanyi distinguishes between "seeing a cat" and "seeing the mechanism by which the cat is seen."

We can formulate the mind-body dualism as the disparity between the experience of a subject observing an external object like a cat, and a neuro-physiologist observing the bodily mechanisms by which the subject sees the cat. The experience of the two is very different. The subject sees the cat, but does not see the mechanism he uses in seeing the cat, while, on the other hand, the neuro-physiologist sees the mechanism used by the subject, but does not share the subject's sight of the cat.¹⁸³

Polanyi then continues, arguing that this fundamental distinction evidences a mind-body dualism.

But the fact remains that to see a cat differs sharply from a knowledge of the mechanism of seeing a cat. They are a knowledge of quite different things. The perception of an external thing is a from-to knowledge. It is a subsidiary awareness of bodily responses evoked by external stimuli, seen with a bearing on their meaning situated at the focus of our attention. The neurophysiologist has no experience of this integration, he has an at knowledge of the body with its bodily responses at the focus of his attention. These two experiences have a sharply different content, which represents the viable core of the traditional mind-body dualism. "Dualism" thus becomes merely an instance of the change of subject matter due to shifting one's attention from the direction on which the subsidiaries bear and focusing instead on the subsidiaries themselves.¹⁸⁴

This distinction of looking at something with the mind and attending from something with the body evidence the mind and body to be of different ontological orders or levels. Polanyi

finds this dualistic relationship of mind and body to be crucial for the undergirding of the freedom of the mind vis-a-vis the body.

Awareness of mind and body confronts us ... with two different things. Owing to the existence of two kinds of awareness--the focal and the subsidiary--we can distinguish sharply between the mind as a from-to experience and the subsidiaries of this experience, when seen focally, as a bodily mechanism. We can see then that, though rooted in the body, the mind is free in its actions--exactly as our common sense knows it to be free. The mind harnesses neurophysiological mechanisms; though it depends on them, it is not determined by them.¹⁸⁵

Jeffrey Kane pushes this dualism set up by Polanyi to its ultimate conclusion of the separability of mind and body.

It now appears ... that Polanyi holds that the mind and body are separable entities. The body performs a subsidiary function and to that extent may be said to be a dwelling place, but it is no more ontologically united with the mind than a tool is with the hands of a craftsman.¹⁸⁶

The second linchpin fortifying the mind-body dualism is Polanyi's promulgation of a stratified universe. Polanyi asserts the universe to be composed of successive levels of reality. Essentially this concept of an ontological stratification functions as a component in an isomorphism between the structure of objects to be known and the structure of tacit knowing. Just as knowing resides in the subsidiary-focal structural relationship, so the entities themselves exist through a part-whole structural composition. This part-whole structure of objects is actualized through two fundamental levels of reality (which are displayed in

ascending complexity constituting the stratification): (1) particulars and the laws which govern them; and (2) the organizing principle of the entity itself.¹⁸⁷ The particulars constitute the lower level; the entity itself, the higher. The relationship of the two logical levels exemplified by the from-to structure is actualized in the integration of the lower by the higher. Thus, the isomorphism of a from-to knowing act and a particular-whole entity fosters a higher-lower series of biotic levels, a hierarchically organized world.¹⁸⁸ Hierarchy is commensurate with the logic of the epistemology of tacit knowing and the metaphysic of part-whole entities.

The concept of the stratified universe is sharpened by Polanyi through two operative principles. One principle is the principle of boundary control or dual control. When spoken of as dual control, the principle is framed in light of two control dynamics which are functioning at each level: (1) control by the laws applicable to that element or level; and (2) control by the laws which control the next level, or the laws of the comprehensive entity.¹⁸⁹ When spoken of as boundary control, the principle is framed: each higher level and its commensurate principles control the boundary left indeterminate by the lower level and its commensurate principles.¹⁹⁰

The second operative principle through which Polanyi sharpens the concept of the stratified universe is

evolutionary emergence. In contrast to the doctrine of evolution which sees everything explained or determined by lower or inanimate levels, Polanyi asserts the doctrine of evolutionary emergence. In emergence the process of evolution displays successive levels of higher reality which is not determined by the lower, even though it emerges through the lower.¹⁹¹ Each successive level in emergence engenders a more integrative, comprehensive entity than the previous level. The higher level functions not in an additive capacity, but rather with an integrative dynamic. Therefore, the higher cannot be accounted for by the lower. Nor can the higher be specified in terms of the lower.¹⁹²

In each of these operative principles, the concept of the stratified universe reinforces the isomorphism between reality and knowing. The analogous relationship can be summarized.¹⁹³

| <u>Reality/Objects</u> | <u>Knowing Act</u> |
|---|---|
| 1. Principles controlling a comprehensive entity rely for their operations on laws governing their particulars. | 1. We rely on our awareness of parts of a whole and attend from the particulars to the whole. |
| 2. But the laws governing the particulars never account for the organizing principles of a higher entity which they form. | 2. If we attend focally to the particulars, we lose sight of the whole. |

For Polanyi this structural correspondence between the knower and the known bridges epistemology and metaphysics.¹⁹⁴ Helmut Kuhn summarizes this bridge:

Thus, knowledge and reality are tied together by a natural affinity of structure.... [R]eality, independent though it is of our knowing it, owns a peculiar fitness for becoming known to us. Its own

hierarchical structure both parallels and renders possible the cognitive enterprise of man [sic]. His intellectual pursuit appears to be prefigured by the stratification of reality.¹⁹⁵

Polanyi discerns the mind-body relationship to be illumined through this stratified structure. Bodily principles evidence boundary conditions which are governed by the higher principle of mentality.¹⁹⁶ That which constitutes the "from" in the from-to epistemological act, the body, mirrors lower levels of reality which constitute the particulars of entities. Similar to particulars of entities, the lower levels, which become integrated through the from-to movement into the focus, the higher level, body also functions at that lower level. Thus, just as the higher level, the focus, is unspecifiable in terms of the lower, the particulars, so the mind is unspecifiable in terms of the body. Further, just as each level remains ontologically distinct, functioning with its own laws and principles, so the mind and body remain ontologically distinct. The relationship of the mind and body is mirrored by the relationship of a higher entity to its constituent lower levels and parts.

While the higher-lower formulation seems congruent with a from-to knowing act, this equation of mind with higher and body with lower must be questioned. The integration of lower levels into a comprehensive entity constitutes the from-to movement. However, the body at times integrates the thoughts of the mind into an action or reaction. In those instances

thoughts of the mind become particulars in a fully embodied act which is more integrative and comprehensive than the isolated thought. Such instances of the mind functioning in the "from" position and the body in the "to" position would be healings of the body through the indwelling of certain images in the mind, e.g. visualization processes, meditations, etc., as well as incidents of persons becoming ill or being prone to cancer upon the loss of a significant other. As the body integrates the thoughts of the mind with other components, such wholistic response evidences a shift in the Polanyian equation of mind as the higher integrator and body as the lower, subsidiary particulars. In these experiences the body functions to indwell and integrate the subsidiaries which are offered through the mind.

In undergirding the mind-body dualism the concept of the stratified universe anchors this epistemology upon two primary touchstones. One touchstone is the principle of the lower being "necessary but not sufficient" for the higher.¹⁹⁷ The body, and even more specifically, the brain, is necessary but is not sufficient to account for the mind. In this hierarchial structure the dependence of the mind upon the body does not engender equality, for the mind in evolutionary emergence maintains autonomy over the boundary conditions of the mind-body intersection. As is true of all higher-lower relationships, through emergence the mind comes into existence only through a process not manifest in the body.¹⁹⁸ Thus, the

necessity of the body does not equate sufficiency for an ontology of the mind.

A second touchstone undergirding the mind-body dualism posture of Polanyi is the touchstone principle that the higher levels can never be reduced to the lower levels. Polanyi promulgates this principle through two polemical accents: the rejection of physics and chemistry as primary metaphysical lenses and the renunciation of behaviorism as a valid epistemological lens. Since "operations of a higher level can never be derived from the laws governing its ... particulars," life cannot be "accounted for by the laws of physics and chemistry."¹⁹⁹ Animate life, while relying upon principles of inanimate reality, principles of physics and chemistry, yet is irreducible to them. Further, since the lower bodily workings cannot disclose the higher and integrative accomplishments of mentality, the knowing act cannot be reduced to behaviorism. The focus upon behavior, upon body action, makes focal what is subsidiary, and thereby loses the very meaning of the action.²⁰⁰ In its move to equate behavior with the mental state, behaviorism fails to discern the non-reducible act of the mind. The reductionism engendered by use of both these lenses requires the emancipation of biological science and epistemology from the "scourge of physicalism."²⁰¹

For Polanyi the mind-body dualism has to be upheld in order to counter the reductionism of such physicalism. Body becomes linked in his rhetoric with physics and chemistry,

with mechanism and behavior, all of which operate on the lower levels of the stratified universe. Mind becomes linked with purpose and integrative activity, all of which operate on the higher levels. To fail to discern the ontological difference between mind and body, and the boundary conditions which place them in distinct ontological categories, is to be vulnerable to the reductionistic merger of the two, so that mind comes to be explained by the actions of the body, and the body comes thereby to be arrogated with a meaning and purpose which only the mind can bestow.

While Polanyi himself explicitly reaffirms the mind-body dualism, the conceptual premises of his epistemological paradigm do offer several points of refutation of the dualism. If Polanyi would emphasize these points, rather than the mutual exclusivity of subsidiary-focal knowledge and the stratified universe, he could affirm the negation of the traditional mind-body dualism. Three refutation points will be named.

One basic refutation from the Polanyian premises is the affirmation that both mind and body are real.²⁰² In the traditional dualistic approach to mind and body, what is of mind (purposes, ideals, emotions, images, etc.) is treated as not real, while what is of body (objects, concrete and tangible entities, etc.) is accorded as real. For Polanyi, such distinction cannot be upheld. Since reality essentially partakes of indeterminacy and potential for future

Thus, "minds are more real than cobblestones."²⁰³ With this shift of definition reality no longer becomes determinative of a mind-body dualistic distinction.

A second refutation of mind-body dualism is the interrelationship of subsidiary and focal knowledge. These yoked categories offer two axioms which critique the traditional mind-body dualism. One, all mentality has bodily roots. Without body, there is no thought.

All thought is incarnate; it lives by the body....
We have found that our subsidiary awareness of the particulars of a comprehensive entity is fused, in our knowing of the entity, with our subsidiary awareness of our own bodily and cultural being.²⁰⁴
(emphasis added)

In contrast to the renunciation of the body by Cartesian epistemology, Polanyi denies the value and even the possibility of a disembodied intelligence, for we build our experience out of our body.²⁰⁵ Even further, as Fraser Crowley posits, a person's body is the subject and not the object, of conscious experience. As the ground of the "from" pole, the body is the active subject of one's experience in the from-to movement.²⁰⁶ As noted previously, the body functions as the source of all thought, either as the actual subsidiary ground or as the paradigmatic subsidiary process which undergirds all indwelling. As the primary subject of all knowing, the body is essential to the functioning of the mind.

A second axiom emerging from the subsidiary-focal interrelationship also undercuts the traditional mind-body

dualism. Just as subsidiary and focal knowledge within the tacit triad cannot be separated, neither can body and mind be separated. While the Cartesian dualism swings its ax by establishing the discontinuity between body and mind, to the extent of their possible separation, the tacit triad cements the two together. While Polanyi did accent the mutual exclusivity of subsidiary and focal, body and mind, his premise does not allow for their separation.

I have said that the mind of a person is a comprehensive entity which is not specifiable in terms of its constituent particulars; but this is not to say that it can exist apart or outside of these particulars. The meaning of a printed page cannot be specified in terms of a chemical analysis of its ink and paper, but neither can its meaning be conveyed without the use of a physical medium, such as ink and paper.²⁰⁷

In the tacit triad, in the act of comprehension, subsidiary and focal, body and mind, become merged in the resultant knowledge or consciousness. To mentally comprehend the external the knower indwells the object, taking it into, not one's mind, but one's own body. Thus, the knower's own actual embodiment, and the embodiment by indwelling, by mental projection, keep the body integral to all knowing. Here, in the act of comprehension, is actualized an essential linkage of mind and body. Further, in this tacit triad the body cannot be separated from the mind if meaning is to be retained, for meaning emerges from the integration of the two. Thus, to the Cartesian dualistic enterprise, Polanyi's organic

vision offers a starkly different voice, one which is more in tune with the poet:

O chestnut tree, great-rooted blossomer,
Are you the leaf, the blossom or the bole?
O body swayed to music, O brightening glance,
How can we know the dancer from the dance?²⁰⁸

Polanyi finds in the from-to act a basis for the body-mind dualism. As noted previously, he posits that seeing a cat is fundamentally different from seeing a person who is seeing a cat; looking from is fundamentally different from looking at. Accenting the mutual exclusivity of the subsidiary-focal relationship, Polanyi analyzes them as different and dualistic. However, in this analysis Polanyi is comparing two experiences, the person integrating a from-to act to discern a cat, and the person integrating a from-to act to discern a person seeing a cat. While the differences between the two experiences credit a dualistic pull, in the actual from-to act of each, the dualism is mitigated. The from-to structure is one of non-separable components. Their mutuality, while not symmetrical, is interrelational by virtue of the integrative nature of comprehension. One cannot exist without the other. As the body and mind function within a from-to structure, dualism is negated. Polanyi himself misses this anti-dualism signpost as he turns his attention away from one integrated act of viewing to two different viewing experiences.

The mind-body dualism is refuted by three fundamental premises explicated by Polanyi, the reality of both mind and body, the interrelationship of focal and subsidiary knowledge, and the concept of continuous gradation. This third premise is explicated most often by Polanyi through the stratification of reality as it links inanimate and animate matter, as well as animal and human organisms. Rather than discerning a radical difference between such categories by virtue of one side being primarily body-without-mind and the other side being body-with-mind, Polanyi advocates a discernment of the continuity or linkages between them.²⁰⁹ With this conceptual shading of continuous gradation in hand, the stratification of reality can be colored as a continuum of ascending qualities. As a continuum the various entities are linked by continuity, rather than the discontinuity of dualism. Thus, while Polanyi fails to draw upon this concept of continuous gradation when explicating the mind-body relationship, it nevertheless functions to mute their dualism. Marjorie Grene draws attention to the fact that when gradation engenders levels, Cartesian dualism is not the result, but rather a rich variety of mind and body realities.

[T]here are levels of organization of real entities.... It must be noted, however, that this is not to reinstate either a Cartesian dualism or any other ontological pluralism of this kind. It is precisely the alternative between materialism and mind-body dualism which we are trying to overcome.... I have already referred to the way in which psychologists take the disjunction of a mindless reality or machine-ghost duality as the only possible choice before them.... [W]hat we need,

again, is to articulate an analytical pluralism, a metaphysic which will allow us to acknowledge the existence of a rich variety of realities, not all of which need exist in identifiable, spatiotemporal separateness. Minds are not separate from bodies, yet persons capable of 'minding' are richer and more highly endowed than persons, or individuals, not so capable.... [W]e need to recognize the richness of reality.... [For] the nature of these realities is more complex, involves more strands and levels and ways of being, than we had thought. Not only in extension, but in intensity, in depth of being, the world has more to say to us, in a greater range of types of discourse, than our Cartesian imprisonment has allowed us to believe.²¹⁰

By virtue of continuous gradation a rich variety of realities evidencing varying compositions of mind and body exist. Such composites evidence not a separable dualism, but transitional gradations of the intermingling of mind and body.

Reason-Affect

Within the Polanyian corpus the issues of the reason-affect dualism are centered in the tension between knowledge as demonstrable and knowledge as nondemonstrable. Reason, and its correlates of logic, objectivity, and rationality, have in traditional epistemology claimed veracity by virtue of their inherent demonstrability. Affect, and its correlates of intuition, imagination, and faith, have in traditional epistemology been limited to veridical vulnerability, at best, and suspicion or denial, at worst, by virtue of their nondemonstrability. Polanyi responds to this epistemological formulation on two primary fronts. The following discussion will focus upon each of those fronts and then turn to the Polanyian principles which function to overcome the dualism.

The first front upon which Polanyi critiques this traditional epistemological formulation is the explication of the ubiquitous nature of passion in all knowing. In contrast to the Cartesian premise that veridical knowledge must be free of passions, Polanyi promulgates the idea that the personal participation of the knower in the knowing act "takes place within a flow of passion."²¹¹ Specifically, the epistemological ground of commitment engenders an intrinsic presence of passion on all knowing. The Polanyian corpus is replete with the vocabulary of the affect; delight, beauty, love, surprise, joy, all become characteristic of the knowing act and necessary to even describe it.

[Personal knowledge in science] commits us, passionately and far beyond our comprehension, to a vision of reality. Of this responsibility we cannot divest ourselves by setting up objective criteria of verifiability--or falsifiability, or testability, or what you will. For we live in it as in the garment of our own skin. Like love, to which it is akin, this commitment is a 'shirt of flame', blazing with passion and, also like love, consumed by devotion to a universal demand.²¹²

The reliance of all knowing upon the emotions functions to link scientific knowledge with the knowledge of the arts and religion.

The affirmation of a great scientific theory is in part an expression of delight. The theory has an inarticulate component acclaiming its beauty, and this is essential to the belief that the theory is true.... A scientific theory which calls attention to its own beauty, and partly relies on it for claiming to represent empirical reality, is akin to a work of art which calls attention to its own beauty as a token of artistic reality. It is akin also to the mystical contemplation of nature.... More generally, science, by virtue of its passionate

note, finds its place among the great systems of utterances which try to evoke and impose correct modes of feeling. In teaching its own kinds of formal excellence science functions like art, religion, morality, law and other constituents of culture.²¹³

Emotions are epistemologically inescapable; they energize all knowing activity.

The second front upon which Polanyi critiques the traditional epistemological formulation is his promulgation of the limitation of reason or logic. The inadequacy of formal reasoning processes is made evident when one compares them to the process of integration. While logical procedures of deduction or induction function to connect two focal items (premises and consequences), integration functions to make subsidiaries bear upon a focus.²¹⁴ While logical procedures can be made explicit and formal, integration is unspecifiable and informal. Reasoning depends upon tacit integration; in and of itself, it is impotent.²¹⁵ It is integration, with its indefinable and nonstrict veridical marks, which validates any knowledge gained by reason; reason itself is unable to validate knowledge, for knowledge is essentially gained through the tacit powers of integration.

[W]hether integration results in establishing perceptual or cognitive facts or in producing works of the imagination, the process is essentially informal. The fact that a coherence established by integration will have qualities not present in the subsidiaries used in composing this focal result is in itself proof of this, since in a formal process the result can be seen to have been fully present in its antecedent premises, i.e., to be a logical implication of them. It follows that there can be

no strict--i.e., formal--rules for accepting or rejecting the validity of an integration.²¹⁶

Rationality can only go so far in the knowing activity and must be accorded limited veracity.

Three primary notes within Polanyi's epistemological paradigm function to specifically overcome the reason-affect dualism. The chord which these notes sound heralds a holistic epistemology in which both reason and affect are accorded validity in the knowing process. Further, neither reason nor affect can be viewed in epistemological isolation. For Polanyi, reason and affect co-mingle, in varying degrees, within every knowing act.

The first note in this chord is the note of Intellectual Passions. The committal act which engenders knowledge is to be discerned as a passionate, intelligent effort. Far from viewing passions and intellect as antithetical, Polanyi affirms the tacit, from-to integration as an intelligent effort which is guided by a complex system of feelings and emotional responses. Entitling one of his chapters in Personal Knowledge "Intellectual Passions," Polanyi argues that intellectual beauty and delight, as well as other emotions, are part of intellectual rightness, and must be claimed as "intellectually precious."²¹⁷ Intellectual passions render three epistemological actions which carry the knowing process from its inception to its conclusion. At the very beginning of the knowing act intellectual passions provoke the

search. Knowing begins by a desire or "craving" to understand.²¹⁸ This intellectual desire sets the knower on the journey toward comprehension. All reasoned truth owes its genesis to just such a passion.

The second epistemological act rendered by intellectual passions, their heuristic activity, operates through the time of searching for answers, solutions, or beliefs which constitute knowledge. The intellectual passions serve as heuristic guides for the selection or elimination of clues for subsidiary indwelling.²¹⁹ In the search for the integration, or comprehension, the scientist, as well as any other knower, makes a selection of which clues he/she senses are pertinent and therefore need to be indwelt. Such selection is due to the knower's heuristic vision which has been shaped by past experiences as well as cultural conditioning. The judgment used in this selection cannot be certified by explicit, logical rationale, for its justification is grounded in a feeling of rightness. In the context of his discussion on the Platonic paradox of how we can know the unknown, Polanyi makes the assertion thus:

The seeming paradox is resolved by the fact that even though we have never met the solution, we have a conception of it in the same sense as we have a conception of a forgotten name. By directing our attention on a focus in which we are subsidiarily aware of all the particulars that remind us of the forgotten name, we form a conception of it.... We should strive persistently to feel our way towards an understanding of the manner which these known particulars hang together.²²⁰ (emphasis added)

Our intellectual passions function to select the appropriate subsidiaries; thus, we do "feel our way" or have a "sense" that we are on the right track.

Third, intellectual passions serve to accredit the solution, answer, or belief which results from the searching process. Why do we accept an idea or statement or belief as true? Because our intellectual passion of beauty or delight or satisfaction or sense of completeness compels our assent.

As the pursuit of our drives implies the supposition that there exists objects which we have reason to desire or to fear, so similarly, all passions animating and shaping discovery imply a belief in the possibility of a knowledge of which these passions declare the value; and again, in accrediting these passions with the power to recognize the truth, we do not assume their infallibility--since no rule of scientific procedure is certain of finding the truth and avoiding error--but we accept their competence.²²¹ (emphasis added)

The justification of one's knowledge by intellectual passions makes the end of the knowing process anchored in passions just as was its beginning. All formal reason is encased by the epistemological roles of intellectual passions. As Polanyi asserts: formal reasoning "starts with the intuitive surmise of a significant shape, and ends with an equally informal decision to reject or accept it as truly significant."²²² Far from exhibiting dualistic opposition, reason and affect become inseparable within the knowing activity.

A second note in the Polanyian chord of anti-dualism vis-a-vis reason and affect is the note of the logical gap and the

role of intuition in crossing it. The paradoxical problem raised by Meno to Socrates is one frame of this logical gap.²²³ How can one know what is unknown? There is a logical gap between the known and the unknown which remains an unsurmountable barrier unless one discerns the interworkings of tacit knowing in which unspecifiable intimations function to lead one across the gap. Hidden reality, the unknown, is made accessible through such intuition. Referring to Plato's paradox Polanyi asserts:

The task of solving a problem must indeed appear self-contradictory unless we admit that we can possess true intimations of the unknown. This is what Plato's argument proves, namely, that every advance in understanding is moved and guided by our power for seeing the presence of some hidden comprehensive entity behind yet incomprehensible clues pointing increasingly toward this yet unknown entity.²²⁴

The logical gap between a problem and solution, between unknown and known, is bridged by the tacit structure in which the knower "notices the clues pointing to the unknown," "feels her way," "follows his sense," or, in Polanyi's words, "anticipates the presence of the yet hidden knowledge behind the gap."²²⁵ We indwell clues which we are aware of as pointers to their hidden meaning. Thus, the logical gap is not crossed by processes of reasoning, but rather by an intuitive leap guided by a reliable sense of which clues are appropriate for the indwelling, a sense which undergirds the leap.

Polanyi links this intuitive leap with the integration act itself. Thus, all integration requires a leap of a logical gap. It is a leap because no explicit reasoning can engender it, nor account for it.

Our dwelling in the particulars, the subsidiary clues, results in the synthesis into a focal object only by means of an act of our imagination--a leap of a logical gap: this does not come about by means of specifiable, explicit, logically operative steps. The depth seen through a stereoscope is a new phenomenal experience, not deducible in its unique phenomenological character from the clues that the process of tacit integration integrates, just as the heliocentric concept of the planets "seen" by Copernicus was a new conceptual experience not deducible from his available data. We can only point to the existence of tacit integration in our experience. We must be forever unable to give it an explicit specification.²²⁶

Knowing employs reasoning, but must ultimately rely upon an intuitive leap which engenders its constitutive integration. Polanyi discerns that while the degree of intuition, or imagination, and the degree of logical reasoning vary within differing acts of knowledge, their presence is invariant.²²⁷

For Polanyi intuition is characterized by passion.²²⁸ Its function in crossing the gap requires the power of passion. In an explication of the implications of the intuitive leap of a logical gap, Thomas Torrance posits that passion is needed because the gap itself essentially looms between the knower's ideas and his/her experience.

Einstein set about getting rid of the gap that had been posited in modern thought between mathematical knowledge and empirical knowledge, for all our knowing at whatever level involves an inseparable intertwining of theoretical and empirical elements. While all knowledge of reality starts with

experience and ends with it, there is no logical way to that knowledge through deduction from observations, for there is no logical bridge between our ideas and experience. We have to employ what Einstein called an 'intuitive' mode of apprehension, resting on a sympathetic understanding of nature.²²⁹ (emphasis added)

The bridge between one's ideas and one's experience is the bridge of feeling, a sense of connection. In contrast to a Cartesian attempt to establish a rational bridge, Polanyi accents the passionate nature of the intuitive link between self and world. Such passionate intuition is to be accredited as competent to uphold that fundamental bridge, competent but not, of course, infallible, for as noted, given the nature of knowing, no bridge could be infallible. It is upon that intuitive bridge, then, that reasoning functions to sharpen one's knowledge of self and world.

A third note in the chord by which Polanyi counters the dualisms of reason and affect is the note of the redefinition of logic. Polanyi's work is often critiqued as being psychological and not logical. Philosophically, it then becomes dubious. But Polanyi sounds the note of logic with loud emphasis. Tacit knowing is a logical epistemological structure. Such a claim is predicated upon a redefinition of logic.

I call "logic" the rules for reaching valid conclusions from premises assumed to be true. Currently logic seems to be defined instead as the rules for reaching strict conclusions from strict premises. I think we should reject this definition. No strict rules can exist for establishing empirical knowledge.²³⁰

Upon this redefinition of logic Polanyi asserts that tacit integration is a "logical process of inference" even though it is not explicit.²³¹ Its rationality is grounded in its logical relationship between life in the body and the life of external reality, between mind and matter.²³² Such logical relationships can never be put into explicit, reasoned formulations, but they still offer rational foundation for knowledge reaped by tacit integration. Holding together such concepts as informality and logic, psychological and logical, must not be seen as irrational, but rather, of the essence of intelligence. Shifting the definition of logic, Polanyi finds logical structures to be inclusive of what has traditionally been relegated to the non-logical, psychological realms.

My main task will be to survey the non-strict rules of inference--in other words, the informal logic--on which science rests. This non-strict logic will be seen to rest to some extent on psychological observations not hitherto accepted as the foundation of scientific inference.²³³ (emphasis added)

Thus, epistemological categories of emotions, beliefs, judgments, intuition, etc., must be bestowed rational status along with reason, ideas, proofs, etc. No longer can the measuring rod of logical or rational be allowed to separate reason and affect into dualistic poles. Both are rational.

The chord which Polanyi sounds overcomes the reason-affect dualism of Cartesian and positivistic epistemology. This chord, with its constitutive notes of intellectual passions, the intuitive leap across the logical gap, and the

redefinition of logic itself, functions to intensify Polanyi's consistent critique of the attempt to establish epistemological neutrality and objectivity. Reason is the tool by which Cartesian and positivistic paradigms build a detached and objective vista from which to perceive "pure" knowledge. In contrast, Polanyi asserts that it is only by the intermingling of reason and affect that any knowledge is possible. One of his classic illustrations of this axiomatic partnership is the illustration of trial lawyers, whose very non-neutrality is at the heart of, and even necessary for, the emergence of truth.

We have spoken of the excitement of problems, of an obsession with hunches and visions that are indispensable spurs and pointers to discovery. But science is popularly supposed to be dispassionate. There is indeed an idealization of this supposition, current today, which deems the scientist not only indifferent to the outcome of his surmises but actually seeking their refutation. This is not only contrary to experience; it is logical nonsense as well.... Courts of law employ two separate lawyers to argue opposite pleas, because it is only by a passionate commitment to a particular view that the imagination can discover the evidence that supports it.²³⁴ (emphasis added)

The passion undergirding reason does not create evidence, or knowledge, but one will not find that evidence, or knowledge, without that passion. Thus, whether or not scientists, or other knowers, have consciously admitted this wedding of reason and affect, it has functioned and continues to function in all knowing experiences.

Epistemological Implications

Polanyi weaves a very striking epistemological tapestry through his analysis of how knowing occurs. Because of the significance of this tapestry for religious knowing, this chapter will conclude by drawing out several threads of the tapestry for deeper explication. Six threads will be pulled out.

One of the major epistemological implications of Polanyi's paradigm is the inherent linkage of knowing and doing. Two threads in the tapestry are used to interweave knowing and doing. One thread is the thread of action itself. Knowing necessitates active participation; it is an act engaged in by one who seeks to achieve comprehension.

As much as Polanyi predicates his epistemological insights upon Gestalt perception, it is at this point that he sharply critiques the fundamental assumptions of Gestalt theory. Gestalt theory describes perception as a passive experience, as an automatic construct. Gestalt fails to discern the deliberate, intentional effort required in perception, the active personal participation of the knower.²³⁵ Knowing is an action of integrating subsidiary clues into a focal object. In a much fuller explication of Polanyi's tension with Gestalt perceptual theory as it increasingly looked for mechanical explanations in the nervous system, Harry Prosch offers this summary:

Gestalt psychology was, therefore, a distinct improvement upon the various behavioristic and

mechanical approaches to perception and to learning, Polanyi held. And we owe to such psychologists much of the evidence that supports the notion that perception is a comprehension of clues in terms of a whole. Unfortunately Gestalt theory also eventually fell into the same trap from which it at first offered an escape. Polanyi pointed out that, as the Gestalt psychologists held, much of perception operates automatically. That, for example, much of what we see we do so because of the way in which what extends to the corner of the eye simply serves as the background of the objects we perceive, independently of any intellectual or conceptual views we may have or any efforts made by us--except, presumably, for our efforts to find "objects" at all.... Gestalt psychologists, he held, have been influenced by the objectivistic and mechanical prejudices of our age, and so have tended to work mainly with examples of ... automatic type of perception.... [But] mechanical theories of perception ... are ... deficient ... simply because they are not equal to explaining perception. Part of the background operative in perception is due to something other than simple physiologically built-in mechanisms. Some of it is provided by what we think we know of the world, and so is entangled with our intelligent and critical intentions. Besides, perception is part of the cognitive recognition of signs as having meanings when bearing upon something else. And neither of these activities, he thought, can operate wholly automatically.²³⁶

Knowing is something we do, not something we have; essentially, it is a process, not a state, an achievement that we perform, not a happening that we await.²³⁷

A second thread by which Polanyi interweaves knowing and doing within the epistemological tapestry is the thread of submission or surrender. Tacit knowing, knowing by means of unspecifiable clues, requires the intentional and purposive act of submission to a "master." Polanyi explicates this epistemological act of submission through the ethos of apprenticeship. While explicit and strict rules can be

learned by precepts, non-strict, tacit rules, which function more as "rules of art," can only be learned by imitation of the practice which embodies them.²³⁸ Coming to know, therefore, is a process of the transmission by example from master to apprentice. This is an epistemology of "connoisseurship." Knowing of skills, knowing of discovery, knowing of perception, is analogous to wine-tasting and other such arts. Using the example of medical knowledge, Polanyi asserts:

What has been said of skills applies equally to connoisseurship. The medical diagnostician's skill is as much an art of doing as it is an art of knowing. The skill of testing and tasting is continuous with the more actively muscular skills, like swimming or riding a bicycle. Connoisseurship, like skill, can be communicated only by example, not by precept. To become an expert wine-taster, to acquire a knowledge of innumerable different blends of tea or to be trained as a medical diagnostician, you must go through a long course of experience under the guidance of a master.²³⁹

Since knowing is grounded in unspecifiable clues, submitting to and imitating a master, indwelling that master's actions, becomes the only way of learning how to do the skill, or how to see the object. For the master, him/her-self, cannot specify his/her knowledge, but only show it. Polanyi predicates this insight upon a story:

A few years ago a distinguished psychiatrist demonstrated to his students a patient who was having a mild fit of some kind. Later the class discussed the question whether this had been an epileptic or a hysterio-epileptic seizure. The matter was finally decided by the psychiatrist: "Gentlemen," he said, "you have seen a true epileptic seizure. I cannot tell you how to

recognize it; you will learn this by more extensive experience."

The psychiatrist knew how to recognize the disease, but he was not at all certain how he did this. In other words, he recognized the disease by attending to its total appearance and did so by relying on a multitude of clues which he could not clearly specify.²⁴⁰

Knowing becomes an act of imitative practice as one submits to a master who has acquired the knowledge and who embodies it in his/her own action.

The active submission required by this epistemology of connoisseurship enacts a response to authority. Tacit knowing requires submission to some form of authority. Imitation, the basic learning genre of tacit knowing, necessitates the acknowledgement of an authority. This fundamental nature of authority in learning that which cannot be expressed in external criteria engenders trust as a major epistemological constituent.²⁴¹ Polanyi anchors authority, and its correlative act of trusting indwelling on the part of the knower, in two wedded constructs: the constructs of "master" and the construct of "tradition." One of the major reasons why the master embodies authority resides in his/her function as the carrier of the tradition.²⁴² Further, the master not only is required for the transmission of the explicit premises of the tradition, but even more essentially, for the embodiment of its unspecifiable world view. All knowing begins, not in a vacuum, but within a pre-suppositional frame of traditional premises, language, and knowledge which is transmitted from

generation to generation through the master-teacher and apprentice-student interactions. This essential role of tradition in knowing invokes the integral presence of community. The shared consensus of the community functions to bestow credibility to the authority of the tradition.²⁴³

The authority of the tradition and its master-teachers, is not to be construed as "blind authoritarianism,"²⁴⁴ for rules of art are to be reinterpreted in their passing.²⁴⁵ Tradition and its apprentice-receivers must be perceived in an interactive relationship given the fallible structure of all tacit knowing.

Any tradition fostering the progress of thought must have this intention: to teach its current ideas as stages leading on to unknown truths which, when discovered, might dissent from the very teachings which engendered them.²⁴⁶

The epistemological tapestry woven by Polanyi's paradigm uses two primary threads to interweave knowing and doing. A third thread in the tapestry interweaves knowing and being. This interwoven nature of knowing and being in the fabric of one's life offers a salient thread for religious knowing. Polanyi asserts that our knowing shapes how we are in the world. There is an existential character to all knowing for "every time we assimilate a tool to our body our identity undergoes some change; our person expands into new modes of being."²⁴⁷ As we indwell subsidiary particulars we pour ourselves into them and thereby our very being assumes the perspective of those subsidiary particulars. To change

subsidiaries is to experience a change in being. In contrast to the detached methodology of Cartesian and positivistic epistemologies, personal knowing thus discerns knowing as a "self-modifying process," engendering an existential involvement.²⁴⁸ Our epistemological participation in the subsidiaries, our way of being in the world, is what we are in the world.²⁴⁹ John Apczynski describes this self-creating function of the knowing process:

Within this framework for understanding human knowledge, the personal contribution of the knower means that in the activity of knowing we shape ourselves and create what we are as persons. We do this by incorporating these particulars of our subsidiary awareness into ourselves in order to focus on some feature of that of which we are aware.... [This leads] to the further recognition of knowing as doing, affecting the very reality of a person. This is reflected in such statements as, "He is a doctor." This statement means more than the fact that the person identified knows something about the normal function of the human body and how to treat certain malfunctions. It also describes the kind of person he is.... [T]his already indicates a preliminary possible meaning for religious statements: the person who sincerely expresses them has created himself [sic] differently from the person who does not.²⁵⁰ (emphasis added)

Such is the nature of indwelling; it energizes both ontological and cognitive dimensions of life and holds them in tandem. In this entangling of being and knowing, self and world are wedded together.

The fourth thread interwoven through Polanyi's epistemological tapestry is the thread of reliance. In many ways, this epistemology may be named the "epistemology of

reliance." We know by relying upon our knowledge of something as we reach out for the knowledge of something else. We rely upon tools, signs, symbols, theories, world views, and most fundamentally, upon body. It is only by relying upon these subsidiary roots that we come to know anything. Polanyi asserts this premise to be one unique contribution of his paradigm for epistemological theory.

Such ways of acquiring knowledge may sound strange, but then we are dealing with a kind of knowledge which, though familiar enough to us all, seems never to have been clearly identified by students of the theory of knowledge. Hitherto recognized processes for acquiring knowledge, whether by experience or deduction, apply only to the knowledge of things we are attending to and not to what we know of things by relying on our awareness of them in the process of attending to something else.²¹ (emphasis added)

What we know by virtue of our reliance upon it is the kind of knowledge which is deeply set within us. As deep knowledge it most often cannot be specified, but does function to give specification to other knowledge upon which it bears. Thus, we do not know it because we can specify it, or explain it, or even justify it, but because we can rely upon it for further comprehension. To know it is to rely upon it. And only those who rely upon it will know it.

Fifth, a predominant thread which Polanyi uses to weave his epistemological tapestry is the thread of heuristic vision. One of Polanyi's most significant contributions to knowing, and especially to religious knowing, is his explication of the dynamics of a world view epistemology. All

knowing occurs through and by virtue of the knower's framework by which she/he discerns objects and ideas. The knower's concept of the nature of the world and of knowledge itself undergirds all knowing activity. Only by the indwelling of clues of how the world is and how it functions is one enabled to make discoveries. Such subsidiary indwelling functions as an heuristic vision. This "indigenous and normative place of heuristic vision"²⁵² makes knowing an experience of presuppositional orientation.

Several interrelated dynamics characterize the web of this world view or heuristic epistemology. One dynamic is disclosed in the realization that one's presuppositional or world view orientation often determines what one credits with both reality and veracity.²⁵³ The knower's presuppositional image of reality forms the idiom of his/her beliefs, an idiom which is constitutive of the very discernment of what is, as well as of the expectations of what can and will be. One component in this determinative dynamic of heuristic knowing is the resistance of heuristic knowing to specific experiences which seem to contradict it. For a pre-suppositional orientation functions subsidiarily and what is explicit often has not the power to contradict what is subsidiary. The deeply ingrained structuring in heuristic orientation of what can be rightly accredited as veracious resides in an unspecifiable, intuitive impetus toward the knower's rejection of explicit elements which are incompatible. On one occasion

Polanyi pointedly explicates this dynamic through a cross-cultural illustration.

Generalizations such as 'all men must die' or 'the sun sheds daylight' seem to follow from experience without any intervention of an intuitive faculty on the part of ourselves as observers. But this only shows that we incline to regard our own particular convictions as inescapable. For these generalizations are quite commonly denied by primitive peoples. Such people believe that no man ever dies, except as a victim of evil magic, and some of them also believe that the sun crosses back by night to the east without shedding any light in its course. Their denial of natural death is part of their general belief that events which are harmful to man are never natural, but always the outcome of magic wrought by some malevolent person.... The primitive peoples holding these magical views are of normal intelligence. Yet they not only find their views wholly consistent with everyday experience, but will uphold them firmly in the face of any attempt on the part of Europeans to refute them by reference to such experience. For the terms of interpretation which we derive from our intuition of the fundamental nature of external reality cannot be readily proved inadequate by pointing at any particular new element of experience.²⁵⁴

Heuristic knowing resists explicit refutation. Polanyi's insight into this primary dynamic of world view knowledge is drawn from several sources. One provocative paradigm case is the experiment with inverting spectacles. In this experiment persons wear glasses which invert the images they see. After several days of disorientation they are able to re-learn how to see the world and are then able once again to successfully perform tasks asked of them.²⁵⁵ In this process of relearning of the world, explicit directions (e.g. "what is on the right, is really on the left") are found to be meaningless, and often

hindering. The reintegration of clues and its commensurate new orientation is engendered by an effort to tacitly re-image the world. Predicated upon this dynamic of what is involved in re-imaging the world, the concept of conversion, conversion from one world view to another, must be discerned as a process of tacit reintegration. Formal or logical reasoning or forms of explicit argument cannot bring another to change his/her presuppositional framework, for the work of re-imaging is not the result of deduction, but rather, of integration, and therefore is fundamentally a tacit enterprise.

[A tacit] integration ... will often override single items of contrary evidence. It can be damaged by new contradictory facts only if these items are absorbed in an alternative integration which disrupts the one previously established.²⁵⁶

Thus, the "act of smashing the spectacles"²⁵⁷ cannot be engendered by adverse evidence presented in formal arguments. Changing the spectacles is kindled through engaging another in "sympathetic listening"²⁵⁸ to that which is not yet understood, but which offers a tacit alternative orientation.

This heuristic dynamic of determining what one accords as real and veracious and its correlative resistance to adverse evidence cultivates a strong constructive role for the human in knowing. Although Polanyi's firm anchorage in realism makes him wary of the stress upon the constructive activity of the mind, world view epistemology inherently endows the knower with some constructive role in his/her knowledge.²⁵⁹ Since the subsidiary use of a world view emerges

from within oneself, projection does accrue some epistemological status. The knowledge of whether "persons must die" is a cultural product which owes its veracity to the constructive involvement of the knowers. Harry Prosch summarizes this constructive role as a function of "conceptual interpretation."

Polanyi pushes beyond the claim that knowledge is just based on perception; it is, but more he affirms that our perceptions are not given purely by our perceptual mechanisms. The skewed room experiment seemed to show that something like an induction from past experiences forced itself into the character of what it was that we perceived. What is, perceptually given, therefore, is not constructed entirely by our basic perceptual mechanisms. It is partly a result of conceptual interpretation, of which, however, we are aware only in a subsidiary way, not focally.²⁶⁰

Heuristic or world view knowing fundamentally functions as a knowing which emerges by the act of "seeing through." Although we are seeing through our interpretive conceptual framework to what is there,²⁶¹ the world view spectacles which we subsidiarily use, render, not an ontological determinative role, but certainly an epistemological constitutive role for us as knowers.

A second dynamic within the web of heuristic epistemology is the dynamic of intimation. World view knowing operates through intimations of reality. Clues are just that; they are clues to what is beyond themselves. Heuristic vision becomes sensitive to clues which indicate reality and guide the "groping" toward it. For Polanyi, knowing which essentially

occurs through the rubrics of intimations highlights the role of imagination in all knowing activity. In reference to the paradigmatic case of the inverting spectacles, Polanyi asserts the re-integration to be an effort of the imagination.

What is it then that brings about the solution? What causes a process of re-integration to take place, of which we have no focal knowledge, and which we could not carry out in response to such knowledge even if we had it?... We must conclude then that it is the effort of our imagination, seeking to re-interpret our vision in a way that will control the scene before us, which produces the right ways of seeing inverted images. This is the dynamics of tacit knowing: the questing imagination vaguely anticipating experiences not yet grounded in subsidiary particulars evokes these subsidiaries and thus implements the experience the imagination has sought to achieve.²⁶²

Learning to see the world in a new way engages one in imaging what is desired. This thrusting or casting forward of the imagination carries with it a search for the clues which bear upon that vision. Thus, the imagination functions to evoke or activate the subsidiaries needed, whether its thrust was toward the accomplishment of an act, such as riding a bicycle, or toward a new discovery, such as the nature of human knowing. Imagination fulfills this role because reality is essentially indeterminate, "replete with implication;"²⁶³ an indeterminate reality requires imagination for its knowing. For through imagination that which is essentially indeterminate and which is experienced through its intimations can be discovered. The juxtaposition of reality and imagination pervades heuristic epistemology.

A third dynamic within the web of heuristic epistemology is the dynamic of knowing as a "dwelling place." The axiomatic principle of interiorization or indwelling suggests that knowing is an experience of "residing in." One cannot know from the outside looking in; rather one can only know by dwelling in. Thus, knowing both requires and becomes a function of a dwelling place. Polanyi's salient assertion that "according to the logic of commitment, truth is something that can be thought of only by believing it,"²⁶⁴ brackets knowledge as an inside perspective. Knowing requires an attending from, a somewhere from which one directs one's attention in the knowing activity. This very dwelling place is integrally bound up in the process of knowing and in its results. Thus, one who does not dwell there cannot understand that which is known from that dwelling place. In his discussion of religious rituals and practices, Robert Innis frames this premise in this way:

[The categorical schemes of Christianity and Zen Buddhism] are unintelligible to a consciousness which does not have the existential experiences to which they are supposed to be the definitive interpretations. Both are ways of making sense, of integrating ourselves, but there is an ineluctable element of choice involved, of tasting and seeing.... [Just as] in the case of other articulate sets of meanings,... we must be assimilated into them before we can truly comprehend what they are about, for they are wedded, at crucial points, to certain experiences.²⁶⁵

For Polanyi, one's dwelling place in knowing must be discerned as a bodily, historical and social dwelling. The

frameworks and techniques embedded in not only the knower's body, but also in the knower's language and the knower's cultural metaphors and images become so natural, so much a home, that they function for the knower as "common sense."²⁶⁶ Knowing is an activity of being firmly anchored in this from position of one's epistemological home as one attends to an outside object. Thus, epistemologically, without a place to dwell, there would be no way to know anything.

Knowing and its commensurate knowledge are deeply contextual. Integrally bound with the place where they "find their home,"²⁶⁷ knowledge and truth are a function of their dwelling place. Polanyi's elevation of the role of subsidiary dwelling in knowing, however, is held in tension with his accent upon realism. Thus, to say that knowledge and truth are contextual within a Polanyian dwelling place is not to say that they invoke relativism or subjectivism. Rather, the contextual view of knowledge posited by Polanyi portrays knowing as not so much relative to its context, as in some traditional epistemological concepts, as fitting within the purposes and experiences of the context. Knowing is a function of the full cognitive experience, inclusive of both knower and known, the proximal "from" and the distal "to." Through the tacit integration taking place in the context, knowledge and truth is shaped by both. Rejecting both subjectivism and objectivism, Polanyi finds contextual knowledge to be a product of a context which includes the

reality of both subject and object. This nuanced, but decisive, Polanyian concept of contextual knowing posits truth as "whatever is appropriate to, fits with, or harmonizes with the context within which it is maintained,"²⁶⁸ a context anchored in both reality and the human perception of it.

The thread of heuristic or world view epistemology evidences a web of interrelated dynamics: the dynamic of determination of what is accorded reality and veracity, the dynamic of intimation with its commensurate role of imagination in knowing, and the dynamic of knowing as anchored in a dwelling place. All knowing is spawned and shaped by the presence of heuristic vision and passion.

A sixth thread by which Polanyi weaves his epistemological tapestry is the thread of meaning. As one of the four primary aspects of the tacit knowing structure,²⁶⁹ the concept of meaning is not imported into epistemological discussion, but rather resides at the heart of knowing itself. To know is to bestow meaning; to bestow meaning is to know. In the tacit knowing structure, to integrate B into a bearing upon C is to endow B with a meaning of "pointing to" C. Subsidiary indwelling functions to endow meaning.²⁷⁰ Thus, meaning making resides not in discerning a correspondence to reality; meaning making resides in a process of indwelling and integrating. As knowing itself, meaning is forged through the act of relating elements.

Since the tacit structure of knowing is rooted in the from-to movement, three fundamental qualities inhere in the process of meaning making. One, meaning is an intertwined unit of inner and outer dimensions. As the from-to structure yokes the "inside home" and the "outside focus," meaning can never be equated to only inner or outer elements. Meaning is derivative from the interaction of that which is within and that which is without. Two, meaning rooted in this constructive from-to integration harbors an outward thrust, a transcendent movement.²⁷¹ In meaning making there is a reach for that which transcends the knower, or more specifically, that which transcends the knower's dwelling place. The subjectivism of equating meaning with home and its commensurate privatistic insulation is eschewed in favor of conceiving meaning as inherently evidencing a transcending impetus. All particulars, all individuals within a whole, are to be viewed in terms of their participation in the whole. Such subsidiary meaning counters the individualism and privatism of much contemporary thought and practice.

Three, meaning in its inherent from-to structure is tethered to mystery. Given the pervasive and inescapable role of unspecifiable subsidiaries as the "from" of the knowing act, and the indeterminacy of the "to" or focal reality in the act (as well as of subsidiary reality), mystery inheres in all knowing and in all meaning making. Mystery thus is understood as that which cannot be specified nor fixed with

determinate boundaries, and not that which cannot be known. Herein, mystery and knowledge are not antithetical, but rather, portray, if not a symbiotic relationship, at least, a kindred spirit. Both mystery and knowing or meaning-making require the participant to submit, in an act of trusting indwelling, to that which he/she is not able to specify, nor control, to rely on that which is intimated but not fully present, in order to come to know. Mystery, far from being at odds with knowing and meaning, resides at the very heart of the process.

Conclusion

The wholistic epistemology of Michael Polanyi offers a fertile ground for understanding not only how we know as embodied and historical persons, but more specifically, how we know as religious persons. As the paradigm inextricably weaves together knowing and being and acting,²⁷² as it lays a tacit grounding for all explicit knowing, and as it asserts the epistemological stature of belief, commitment, and intuition, this epistemological dwelling place resonates with the act of religious knowing. The following chapter on religious epistemology will explicate with more specificity the implications of this affinity. But in all this explication, Polanyi's caveat must be continually held as a nurturant of humility in the face of intensive efforts to capture how we know: knowing is more attuned to wine-tasting; it cannot be specified; it can only be shown in practice.

NOTES

Chapter 4

¹ Harry Prosch, Michael Polanyi: A Critical Exposition (Albany: State University of New York Press, 1986), 4.

² Eugene Webb, Philosophers of Consciousness (Seattle: University of Washington Press, 1988), 30. Webb adds that Polanyi's son, John, did receive the Nobel Prize for Chemistry in 1986.

³ Prosch, 4.

⁴ Prosch, 6.

⁵ Michael Polanyi, Science, Faith and Society (London: Oxford University Press, 1946), 61.

⁶ See Prosch, 28-29, for a description of the philosophical linkages between scientific objectivism and logical positivism.

⁷ Prosch, 28-29.

⁸ John Apczynski, Doers of the Word: Toward a Foundational Theology Based on the Thought of Michael Polanyi (Missoula, Mont.: Scholars Press, 1977), 9-10.

⁹ Several sources note this attempt. See Michael Polanyi, Personal Knowledge: Towards a Post-Critical Philosophy, Rev. ed. (Chicago: University of Chicago Press, 1962), 141; William Scott, "The Gentle Rain - A Search for Understanding," Intellect and Hope: Essays in the Thought of Michael Polanyi, eds. Thomas A. Langford and William H. Poteat (Durham: Duke University Press, 1968), 254; and Apczynski, 9.

¹⁰ Michael Polanyi, "Commitment to Science," lecture delivered at Duke University, 24 February 1964, cited in Grene, The Knower and The Known, 17.

¹¹ Prosch, 30.

12 Joseph Kroger. "Polanyi and Lonergan on Scientific Method," Philosophy Today 21 (Spring 1977): 3.

13 Polanyi, Personal Knowledge, 9.

14 See Polanyi, Personal Knowledge, 144-50. See also John Barr's illuminative exploration of Copernicus's work as discerned through the filter of heuristic passion and subjective, personal involvement in "Conversion and Penitence," Belief in Science and in Christian Life: The Relevance of Michael Polanyi's Thought for Christian Faith and Life, ed. Thomas F. Torrance (Edinburgh: Handsel Press, 1980), 51-55.

15 Michael Polanyi, "The Two Cultures," Knowing and Being, ed. Marjorie Grene (Chicago: University of Chicago Press, 1969), 41.

16 Polanyi, Personal Knowledge, 140-41.

17 Polanyi, Personal Knowledge, 142.

18 Michael Polanyi and Harry Prosch, Meaning (Chicago: University of Chicago Press, 1975), 24.

19 Polanyi and Prosch, 27.

20 Apczynski, 28.

21 Prosch, 6.

22 Kroger, 3.

23 Grene, 18, 22.

24 Meno, 70A, cited in Grene, 23. For Polanyi this question functions as the base issue for scientific knowing. However, it also functions as a base issue in religious knowing. At a fundamental level, religious knowing confronts one with the questions: How can that which is essentially mysterious be known? How can that which is primarily transcendent be known by a human knower? And further, when we hit upon it, how will we know it is the Holy Transcendent One?

25 Grene, 18, 23.

26 Michael Polanyi, The Study of Man (Chicago: University of Chicago Press, 1959), 44, 30. See also Personal Knowledge, pp. 55-64, for an in-depth definitive exploration of the structure of these two kinds of knowledge.

27 Polanyi, "The Unaccountable Element in Science," Knowing and Being, 113. Polanyi provides a commentary on this principle in a lengthy but illuminative discourse on imagination guided by intuition, a portion of which illustrates the functioning of these two kinds of knowledge: "I shall now try to show how both the dynamic and the static phases of a scientific vision are due to the strength of the imagination guided by intuition. We shall understand then both the grounds on which established scientific knowledge rests and the powers by which scientific discovery is achieved. I have pursued this problem for many years by considering science as an extension of ordinary perception. When I look at my hand and move it about, it would keep changing its shape, its size, and its color, but for my capacity for seeing the joint meaning of a host of rapidly changing clues, and seeing also that this joint meaning remains unchanged. I recognize a real object before me from my joint awareness of the clues which bear upon it. Many of these clues cannot be sensed in themselves at all. The contraction of my eye muscles, for example, I cannot experience in itself. Yet I am very much aware of the working of these muscles indirectly, in the way they make me see the object at the right distance and as having the right size. Some clues to this we see from the corner of our eyes. An object looks very different when we see it through a blackened tube, which cuts out these marginal clues. We can recognize here two kinds of awareness. We are obviously aware of the object we are looking at, but are aware also--in a much less positive way--of a hundred different clues which we integrate to the sight of the object. When integrating these clues, we are attending fully to the object while we are aware of the clues themselves without attending to them. We are aware of them only as pointing to the object we are looking at. I shall say that we have a subsidiary awareness of the clues in their bearing on the object to which we are focally attending." Michael Polanyi, "The Creative Imagination," Chemical and Engineering News, 25 April 1966: 86, cited in Langford and Poteat, 176.

28 Polanyi, "The Structure of Consciousness," Knowing and Being, 212.

29 Polanyi, Personal Knowledge, 55. Polanyi's descriptions of focal and subsidiary knowledge throughout the corpus are rich in both detail and variety. Following is a summary of those descriptive examples and some of their locations within the corpus. For descriptions of practical skills (riding a bike, swimming, etc.) see Michael Polanyi, The Tacit Dimension (Gloucester, Mass.: Peter Smith, 1966), 8; Personal Knowledge, 49-51, 88; Polanyi, "Science and Religion: Separate Dimensions or Common Ground?" Philosophy Today 7 (Spring 1963): 5; Polanyi, "Faith and Reason," Journal

of Religion 41 (October 1961): 240; Polanyi, "Logic and Psychology," American Psychologist 23 (1968): 33; and Polanyi and Prosch, 36. For descriptions of the use of tools (hammer and nail, and the use of a stick/probe by the blind) see Polanyi, Personal Knowledge, 55-56; "Knowing and Being," Knowing and Being, 127-28; "Logic and Psychology," 30; and Polanyi and Prosch, 33-35. For descriptions of the recognition of a physiognomy (a term used by Polanyi to identify a configuration that constitutes a comprehensive whole) see Polanyi, The Study of Man, 33; The Tacit Dimension, 4-5; "Knowing and Being," Knowing and Being, 123; "Science and Religion," 5; and "Faith and Reason," 240. For descriptions of stereoscopic pictures see Polanyi, "Sense-Giving and Sense-Reading," Knowing and Being, 183; "Logic and Psychology," 29; and Polanyi and Prosch, 34. For descriptions of the use of language see Polanyi, Personal Knowledge, 59, 287; The Tacit Dimension, 7; "The Logic of Tacit Inference," Knowing and Being, 145; and "Sense-Giving and Sense-Reading," Knowing and Being, 196, 204-06. For descriptions of perception (the process by which we perceive) see Polanyi, "Knowing and Being," Knowing and Being, 127; "The Logic of Tacit Inference," Knowing and Being, 138; and Polanyi and Prosch, 33. For a description of signs and symbols see Polanyi, Personal Knowledge, 61. For a description of the process of reading see Polanyi, "Logic and Psychology," 29.

³⁰ See Polanyi, "Knowing and Being," Knowing and Being, 128.

³¹ Polanyi, The Tacit Dimension, 9.

³² Colin Grant, "Identifying the Theological Enemy: Polanyi's Near Miss," Modern Theology 3 (April 1987): 256.

³³ Jerry Gill, "Tacit Knowing and Religious Belief," International Journal for Philosophy of Religion 6 (Summer 1975): 80.

³⁴ Polanyi, "Logic and Psychology," 29. Polanyi argues that all knowledge exhibits this from-to structure. In his chapter entitled "Can 'From-To' Awareness Be Ubiquitous?" Harry Prosch presents the analysis of one of Polanyi's critics of a three dimensional Polanyian use of this from-to dynamic in: (1) perception; (2) the meaning of sentience; and (3) the theory describing the act of understanding. While the critic argues that the tacit structure cannot work this broadly, Prosch responds that if we discern that there is no totally explicit knowledge, then the from-to structure is indeed ubiquitous. Prosch, 115-16.

³⁵ See Helmut Kuhn, "Personal Knowledge and the Crisis of the Philosophical Tradition," Intellect and Hope, eds. Langford and Poteat, 116.

³⁶ Polanyi, "The Logic of Tacit Inference," Knowing and Being, 141.

³⁷ Polanyi, "The Logic of Tacit Inference," Knowing and Being, 145.

³⁸ See Polanyi, Personal Knowledge, 59; and Polanyi and Prosch, 36, 138.

³⁹ Polanyi, The Tacit Dimension, 16. See also Polanyi and Prosch, 36; and Polanyi, "Faith and Reason," 242.

⁴⁰ See Polanyi, The Tacit Dimension, 18; and Polanyi and Prosch, 44. The function of joint meaning and the role of whole-parts in this epistemology will be discussed later.

⁴¹ Jerry Gill, "The Case for Tacit Knowledge," Southern Journal of Philosophy 9 (Spring 1971): 55.

⁴² Polanyi, The Study of Man, 11-12.

⁴³ Polanyi and Prosch, 30-31. For other sources of Polanyi's claim that knowledge draws upon the personal contribution of the knower see The Study of Man, 13; Personal Knowledge, vii, 20-21; and Polanyi and Prosch, 44.

⁴⁴ See Polanyi, The Study of Man, 27; and Personal Knowledge, 253-56.

⁴⁵ The components of subsidiary-focal and tacit-explicit are closely linked within the structure of knowing as explicated by Polanyi. In many places he uses them interchangeably. And yet, he wants to distinguish them. His distinction remains implicit, however, throughout the corpus. The only place in which this writer found an explicit distinction was in The Study of Man, 30. Yet even here, while Polanyi states that subsidiary-focal transcends tacit-explicit, his identification of the specific distinction remains obscure. Implicitly, the distinction may be discerned by noting that when Polanyi uses the subsidiary-focal construct he refers most often to the function of parts and wholes and to the function of parts as pointers. The use of the tacit-explicit construct most often occurs in the context of the discussion of the inarticulate, pre-critical knowing which underlies all articulate knowing. Thus, the distinction between the two seems to lie in the indication that the tacit-explicit construct is not illumined through the parts-whole analysis. Tacitly one knows how to swim but that knowledge

is not constructed within a part-whole structure. In the following text of this chapter the reader will find evidence of the blurry boundaries between these two constructs.

⁴⁶ See Polanyi, "Science and Religion," 5; and The Study of Man, 29.

⁴⁷ Polanyi, "The Unaccountable Element in Science," Knowing and Being, 113.

⁴⁸ Polanyi, "The Unaccountable Element in Science," Knowing and Being, 114-18.

⁴⁹ Michael Polanyi, "On Body and Mind," New Scholasticism 43 (Spring 1969): 199.

⁵⁰ Polanyi, The Study of Man, 29-30.

⁵¹ Prosch, 52. This critique will be expanded later in the mind-body dualism section's discussion of Polanyi's principle of the stratified universe. Polanyi's reversal of the parts-whole relationship undergirds his criticism of behaviorism. See the following discussion, pp. 295-97 of this dissertation.

⁵² Part of Gestalt theory undergirding this distinction is the participation of the knower in filling in gaps (or parts) in a whole. Gestalt experiments demonstrate how a knower often fills in missing parts in the patterns of a whole as he/she discerns the whole. Prosch claims that Polanyi was very enticed by this phenomenon. See Prosch, 52.

⁵³ See Polanyi, "Sense-Giving and Sense-Reading," Knowing and Being, 181-82; and Polanyi and Prosch, 38. Polanyi distinguishes four primary aspects of this tacit knowing structure: functional, phenomenal, semantic, and ontological. The functional structure denotes the from-to dimension of its functioning, from the proximal to the distal terms. The phenomenal aspect accents the appearance of the distal in the proximal. In the analysis of the phenomenal, Polanyi points to the change of appearance of the particulars when they participate in the whole (e.g. stereo pictures, where the particular pictures are seen differently when they function in the distal). The semantic aspect of the tacit triad identifies the meaning resulting from its functioning. Meaning depends upon this from-to structure. The ontological dimensions, of the triad indicates the reality of the object perceived. Reality for Polanyi ascribes to an object its character of being able to "reveal itself in unexpected ways in the future," and of not being "exhausted by our conception of any single aspect of it." Polanyi, The Tacit Dimension, 32. For a description of these four dimensions of the tacit

triadic structure of knowing see The Tacit Dimension, 10-13. See also Prosch, 67-71; and Jeffrey Kane, Beyond Empiricism: Michael Polanyi Reconsidered (New York: Peter Lang, 1984), 108.

54 Polanyi, "Sense-Giving and Sense-Reading," Knowing and Being, 181-82.

55 Polanyi, "The Unaccountable Element in Science," Knowing and Being, 115. See also "The Logic of Tacit Inference," Knowing and Being, 139.

56 Polanyi, "Knowing and Being," Knowing and Being, 127.

57 Polanyi, "Logic and Psychology," 30.

58 Polanyi, "The Unaccountable Element in Science," Knowing and Being, 113. In identifying marginal subsidiaries alongside subliminal subsidiaries, Polanyi makes clear that subsidiary knowledge displays a whole range of consciousness. In addition to subconscious clues, subsidiary knowledge also includes clues which vary across the whole range of consciousness. It is not the degree of consciousness which defines subsidiary knowledge, but rather its logical function. Further, subsidiary knowledge which was initially conscious often "lapses into unconsciousness" through the effort of repetition. See Polanyi, Personal Knowledge, 61-62, 92; The Study of Man, 45; "Sense-Giving and Sense-Reading," Knowing and Being, 194; and Polanyi and Prosch, 34.

59 Polanyi, Personal Knowledge, 56.

60 Polanyi, "Tacit Knowing: Its Bearing on Some Problems of Philosophy," Knowing and Being, 165. See pp. 112-13 and 163-65 for the exploration of optical illusions, specifically the Ames skewed room experiment. In this experiment an adult and a young child are put in opposite corners of a physically distorted room. The viewer looking upon the two figures identifies the child to be taller than the adult. Polanyi posits that the reason for this illusionary conclusion, which is based upon the viewer's assumption that this is a normal room and therefore somehow the child is taller, is that we bring with us an overwhelming past experience of normal rooms. The force of that "back of the mind" knowledge, that tacit or subsidiary knowledge base, is such that we cannot change it, even when our mind tells us that what we are seeing cannot be.

61 Polanyi and Prosch, 37-38.

62 See Polanyi, "Logic and Psychology," 32; and "The Structure of Consciousness," Knowing and Being, 214.

⁶³ Polanyi, The Study of Man, 28. See also "On Body and Mind," 198; and "The Logic of Tacit Inference," Knowing and Being, 150.

⁶⁴ Polanyi, "Faith and Reason," 240.

⁶⁵ See Robert E. Innis, "Meaning, Thought, and Language in Polanyi's Epistemology," Philosophy Today 18 (Spring 1974): 49, 52. In a later article Innis explicates three types of wholes with which Polanyi works: (1) perceptual wholes; (2) linguistic-conceptual wholes; and (3) effective wholes (forms of feelings). See Innis, "The Triadic Structure of Religious Consciousness in Polanyi," Thomist 40 (July 1976): 396-98. In Personal Knowledge Polanyi discusses two kinds of wholes and their concomitant kinds of meaning: (1) contextual wholes and existential meaning; and (2) object wholes and representative meaning (p. 58).

Throughout Polanyi's explication of the semantic dimension of the triadic structure of knowing he emphasizes that the subsidiaries partake of meaning through the focal object upon which they bear. Whatever a particular bears upon is its meaning and outside of that triadic cohesion it is meaningless. See Polanyi and Prosch, 38, 97; Polanyi, Personal Knowledge, 58; The Tacit Dimension, 11-13; and "Logic and Psychology," 29. Throughout the corpus Polanyi offers examples of wholes and their incipient meaning from the areas of visual perception and motor skills.

⁶⁶ Thomas F. Torrance explicates this from-to definitive characteristic of meaning as a dynamic of "looking away from ourselves to something else." He continues: "That from/to relation is the semantic aspect of knowing in which we meaningfully make contact with some reality external to or independent of ourselves and attend to what it signifies from itself. Thus, for example, in reading a book we do not focus our attention on the letters and sentences themselves merely as marks on paper, nor do we treat them as some way of giving expression to ourselves, but we attend to that to which they refer beyond, for it is in that objective reference that their significance lies." Torrance, "The Framework of Belief," Belief in Science and in Christian Life, ed. Thomas F. Torrance, 11.

While the descriptive mode of this analysis must be commended as accurate, its nuance is problematic. If the from-to movement results in a "leaving" of oneself or a denigration of oneself in the drive for "objective reference" then the understanding of Polanyi's emphasis upon integration as a result of the from-to movement has been lost. The from-to movement must be understood as a relational dynamic, as a bridge upon which meaning is constructed. While there is objective reference which enters into the from-to movement,

the resulting comprehension is always an integration of the from into the to and thereby becomes personal knowledge.

⁶⁷ See Polanyi and Prosch, 38; Polanyi, "Logic and Psychology," 31; and The Study of Man, 45.

⁶⁸ See Polanyi, The Tacit Dimension, 19; and Polanyi and Prosch, 80.

⁶⁹ See the reference to Polanyi's critique of positivism's elevation of analysis in the previous section, pp. 230-32, and his critique of behaviorism's drive to make explicit through the analysis of behavior in the subsequent section, pp. 296-97.

⁷⁰ Polanyi, "Knowing and Being," Knowing and Being, 129-30. See also Personal Knowledge, 50-52. For a full discussion of the alternating processes of analysis and integration see "Knowing and Being," Knowing and Being, 125-26.

⁷¹ See Ronald L. Hall, "Wittengenstein and Polanyi: The Problem of Privileged Self-Knowledge," Philosophy Today 23 (Fall 1979): 272; and Jerry H. Gill, "Of Split Brains and Tacit Knowing," International Philosophical Quarterly 20 (March 1980): 56.

⁷² See Thomas F. Torrance, "The Framework of Belief," 18.

⁷³ See Maben Walter Poirier, "Michael Polanyi and the Question of 'Objective' Knowledge," Philosophy Today 32 (Winter 1988): 314.

⁷⁴ Polanyi, "The Logic of Tacit Inference," Knowing and Being, 144. See also "Sense-Giving and Sense-Reading," Knowing and Being, 195; The Study of Man, 13; and Polanyi and Prosch, 61, 133.

⁷⁵ Polanyi, "Sense-Giving and Sense-Reading," Knowing and Being, 195.

⁷⁶ Polanyi, "Sense-Giving and Sense-Reading," Knowing and Being, 195. Polanyi deepens his critique by describing the ideal of a strictly explicit knowledge to be self-contradictory: "The ideal of a strictly explicit knowledge is indeed self-contradictory; deprived of their tacit coefficients, all spoken words, all formulae, all maps and graphs, are strictly meaningless. An exact mathematical theory means nothing unless we recognize an inexact non-mathematical knowledge on which it bears and a person whose judgment upholds this bearing" (pp. 195).

⁷⁷ Polanyi, The Tacit Dimension, 4, 5.

⁷⁸ Polanyi, "The Unaccountable Element in Science," Knowing and Being, 105.

⁷⁹ Polanyi, Personal Knowledge, 56. See also p. 90. Polanyi fully develops these indeterminacies in his essay "Logic and Psychology," which was his 1967 address to the American Psychological Association. Marjorie Grene summarizes the five types of indeterminacies which Polanyi presents there to be: "(1) the indeterminacy of empirical knowledge in its bearing on reality; (2) the unspecifiability of rules for establishing true, as distinct from illusory, coherence; (3) the indeterminacy of the grounds on which knowledge is held to be true; (4) the unspecifiability of the process of tacit integration by which knowledge is achieved; (5) the unspecifiability of the existential changes involved in modifying the grounds of scientific judgment." Grene, "Editor's Note," Knowing and Being, 120.

⁸⁰ Polanyi, "Logic and Psychology," 32-33. See also Personal Knowledge, 49-50.

⁸¹ Polanyi, Personal Knowledge, 49. See also "Knowing and Being," Knowing and Being, 124; "Logic and Psychology," 31; and Polanyi and Prosch, 34-35, 39.

⁸² Polanyi, Personal Knowledge, 88. As partly identified previously, the Polanyian corpus offers examples of unspecifiable knowledge in the arenas of a variety of skills (bicycle riding, swimming, driving a car, learning a language, etc.), perception (often in the discussion of recognition of a physiognomy such as a person's face, disease, or a class of animals), and scientific discovery. See "The Logic of Tacit Inference," Knowing and Being, 141-55, for a rich discussion of tacit knowing using a variety of illustrative material.

⁸³ Polanyi, "The Unaccountable Element in Science," Knowing and Being, 115. Polanyi expands this type of indeterminacy in his article "Logic and Psychology." As noted in the previous endnote, this type of indeterminacy refers to the unspecifiability of the grounds upon which we hold our knowledge. Polanyi forms his argument in terms of the illustration of stereo pictures. The argument evidences well how Polanyi uses such an example to illustrate the principle of unspecifiable grounds which are never experienced directly, but only incidentally. "We now have enough material to uncover the indeterminacies inherent in from-to knowing. We have a very obvious indeterminacy before us in the case of stereo vision. The three-dimensional depth of the stereo image has its basis in the differences between the two stereo pictures, that is to say, the differences due to the fact that the

pictures are taken at points a few inches apart. These tiny differences are not noticeable by simple inspection, and even if we used powerful methods for measuring them, we would find them difficult to itemize since they extend all over the surface. We see, then, how readily our subsidiary awareness picks up and embodies in the focus of our attention items of evidence that we should never notice directly and might indeed find difficult to identify even if we searched for them. This demonstration should suffice to make it clear that the grounds of from-to knowledge may often be unspecifiable.... We have now added, as a third indeterminacy of empirical knowledge, the fact that we may not know on what grounds we hold our knowledge to be true." Polanyi, "Logic and Psychology," 30.

⁸⁴ Polanyi, Personal Knowledge, 60. See also, The Tacit Dimension, 24; "On Body and Mind," 199; and Polanyi and Prosch, 61.

⁸⁵ John Bennett, "The Tacit in Experience: Polanyi and Whitehead," Thomist 42 (January 1978): 37. Polanyi makes this point with sharpness in his analysis of what we learn about knowing from our experience in acts of sensory perception. "[Gestalt discoveries] have shown that our seeing is an act of comprehension for which we rely, in a most subtle manner, on clues from all over the field of vision as well as on clues inside our body, in the muscles controlling the motion of the eyes and in those controlling the posture of the body. All these clues become effective only if we keep concentrating our attention on the objects we are perceiving. Many of the clues of perception cannot be known in themselves at all; others can be traced only by acute scientific analysis; but all of them can serve the purpose of seeing what is in front of us only if we make no attempt at looking at them or attend to them in themselves. They must be left to abide in the role of unspecifiable particulars of the spectacle perceived by our eyes if we are to see anything at all." Polanyi, "Faith and Reason," 241.

⁸⁶ Polanyi, Science, Faith and Society, 68.

⁸⁷ Polanyi, Personal Knowledge, 87-88.

⁸⁸ Polanyi, "Knowing and Being," Knowing and Being, 132-33. This quote also alludes to Polanyi's definition of reality. As noted in note 53, reality is that which discloses itself in unexpected ways. Thus, indeterminacy finds its ultimate grounding in this ontological claim. See the subsequent discussion in the subject-object dualism section of this dissertation, pp. 271-74.

⁸⁹ Polanyi, Personal Knowledge, 264. In many ways this statement posits in summary form Polanyi's answer to Meno's question. How can we know the unknown? Tacitly, we come to know much that we have not yet known explicitly. Polanyi expands his response through the concept of personal knowledge, especially its heuristic and committal dimensions which are explored later in this chapter of this dissertation.

⁹⁰ Polanyi and Prosch, 37.

⁹¹ See Polanyi, The Tacit Dimension, 17; "On Body and Mind," 199; "The Logic of Tacit Inference," Knowing and Being, 148; and "Science and Religion," 8. Polanyi explicates two kinds of indwelling: (1) one's dwelling in one's own body movements; and (2) one's dwelling in another's movements from the outside by the act of interiorizing them. See The Tacit Dimension, 30.

⁹² Polanyi, "Sense-Giving and Sense-Reading," Knowing and Being, 183. See also Personal Knowledge, 327; and in Knowing and Being, "The Logic of Tacit Inference," 148; and "The Structure of Consciousness," 214.

⁹³ Polanyi, The Study of Man, 33. In "Faith and Reason" Polanyi notes that this epistemological dynamic "involves the expansion of ourselves into a new dwelling place, of which we assimilate the framework by relying on it as we do on our own body" (pp. 244).

⁹⁴ Polanyi and Prosch, 45. Polanyi amplifies this concept of indwelling as he discerns its implication for religion. "Religion, considered as an act of worship, is an indwelling rather than an affirmation. God cannot be observed, any more than truth or beauty can be observed. He exists in the sense that He is to be worshipped and obeyed, but not otherwise; not as a fact--any more than truth, beauty or justice exist as facts. All these, like God, are things which can be apprehended only in serving them." Polanyi, Personal Knowledge, 279.

⁹⁵ Polanyi and Prosch, 63. Polanyi fully explicates and explores this concept of conviviality in Personal Knowledge. See his chapter there entitled "Conviviality."

⁹⁶ Polanyi, The Study of Man, 26. Polanyi makes the claim for the justifying powers of tacit knowing through his explication of the knower's "responsible sense of obligation to the truth." This premise is explored in the subject-object dualism section of this chapter of this dissertation (see pp. 275-79).

⁹⁷ Polanyi, The Study of Man, 94. See also pp. 80-81; and Personal Knowledge, 36, 202.

⁹⁸ For statements of this variance in indwelling, see Polanyi, "Tacit Knowing: Its Bearing on Some Problems of Philosophy," Knowing and Being, 160; Personal Knowledge, 321; and "Faith and Reason," 245. For an explication of religious knowing see Personal Knowledge, 197-99; and Polanyi and Prosch, 179-80. In the subsequent discussion on the science-religion dichotomy in this chapter of this dissertation, Polanyi's distinction between religious knowing and scientific knowing is explored (see pp. 283-87).

⁹⁹ The significance for Polanyi of Augustine cannot be overstated. Polanyi entitled his major work, Personal Knowledge: Towards a Post-Critical Philosophy. In this work personal knowledge is explicated through two major concepts: tacit knowing and structure of commitment. In his later work, The Tacit Dimension, Polanyi shifts most of the exegesis of personal knowledge to the concept of tacit knowing. See The Tacit Dimension, x. While in this later work tacit knowing seems "to perform more and more functions performed earlier by commitment" (Prosch, 52), the structure of commitment remains fundamental to the knowing act and is to be discerned beneath and behind all explications of the tacit knowing. For an illuminative exposition of the Augustinian roots of Polanyi see Patrick Grant, "Michael Polanyi: The Augustinian Component," New Scholasticism 48 (Autumn 1974): 438-63.

¹⁰⁰ John Locke, A Third Letter on Toleration, cited in Personal Knowledge, 266. Thomas F. Torrance explicates Locke's position and its consequences for religious knowing this way: "John Locke produced the paradigm 'contradistinction between faith and reason' in which many generations of people have been trapped. Since the human mind, he held, begins with a clean slate, all its knowledge comes from experience, by sensation or reflection, and is built up step by step through demonstration operating with 'visible certain connections.' Rational knowledge is thus equated with demonstrable knowledge and is sharply contrasted with belief which is no more than an 'ungrounded persuasion' of the mind, for it is only extraneously and not evidently related to the thing believed. This had the effect of rejecting the rational acceptability of any claim to knowledge resting upon some internal light of faith or assurance or some external authority such as 'traditional revelation'. That is to say, faith was not respected as a source of knowledge beyond the range of observation and demonstrative reasoning for it is only a private persuasion or opinion." Torrance, "The Framework of Belief," 7.

¹⁰¹ Polanyi, Personal Knowledge, 266.

¹⁰² Polanyi, Science, Faith and Society, 30. See Polanyi's expanded discussion here for a strong apologetic for faith as the foundational premise which underlies all scientific search (pp. 30-31).

¹⁰³ Polanyi, Science, Faith and Society, 69. In Personal Knowledge Polanyi links this premise specifically with scientific discoveries: "The discoveries of science have been achieved by the passionately sustained efforts of succeeding generations of great men, who overwhelmed the whole of modern humanity by the power of their convictions. Thus has our scientific outlook been molded, of which these logical rules give a highly attenuated summary. If we ask why we accept this summary, the answer lies in the body of knowledge of which they are the summary. We must reply by recalling the way each of us has come to accept that knowledge and the reasons for which we continue to do so. Science will appear then as a vast system of beliefs, deeply rooted in our history and cultivated today by a specially organized part of our society. We shall see that science is not established by the acceptance of a formula, but is part of our mental life, shared out for cultivation among many thousands of specialized scientists throughout the world, and shared receptively, at second hand, by many millions.... Science is a system of beliefs to which we are committed.... Yet this does not signify that we are free to take it or leave it, but simply reflects that fact that it is a system of beliefs to which we are committed and which therefore cannot be represented in non-committal terms." Personal Knowledge, 171.

¹⁰⁴ Polanyi, Personal Knowledge, 162. See also p. 267.

¹⁰⁵ Polanyi and Prosch, 174-75. In discussing the Copernican theory Polanyi assesses it to be based on "a veritable jungle of ad hoc assumptions." He concludes his discussion of it by observing: "[Copernicus] did not stop to consider how many assumptions he had to make in formulating his system, nor how many he ignored in doing so. Since his vision showed him an outline of reality, he ignored all its complications and unanswered questions." Polanyi, "The Creative Imagination," Tri-Quarterly 8 (Winter 1967): 112, cited in Kane, 174-75.

¹⁰⁶ Kroger, 3.

¹⁰⁷ Jeffrey G. Sobosan, "The Tacit Dimension of Faith: A Reflection on Michael Polanyi," Philosophy Today 19 (Fall 1975): 277.

¹⁰⁸ Apczynski, 69.

¹⁰⁹ The phrase "fiduciary hazards" is Polanyi's. See Polanyi, Personal Knowledge, 313.

¹¹⁰ Edward Pols, "Polanyi and the Problems of Metaphysical Knowledge," Intellect and Hope, eds. Langford and Poteat, 82. Pols interprets Polanyi as framing this existential reality of knowledge in a dark, negative light. His interpretation paints Polanyi as casting the personal element within knowing in a negative role, as part of a "dark dynamism." Pols finds that Polanyi seems to be saying: "We lack a mode of knowing that is self-justifying in its impersonal self-evidence and clarity; failing that, we must make do with a kind of fides quaerens intellectum--a faith in search of understanding--a plunging, groping movement that is justified in its issue, but has no justification in itself except in the sense that we cannot get along without it" (p. 81).

Pols's interpretation must be questioned. Polanyi's exegesis of personal knowing is proffered through a passionate, positive apologetic. On several occasions he notes that this existential situation is not to be despised, but celebrated (e.g., "Logic and Psychology," 30). His use of Augustine's positive epistemological premise of knowledge as a "gift of grace" further counters Pols' interpretation. On many occasions Polanyi situates personal knowledge in a positive, "up-beat" context, making dubious the concept of personal knowing as a dark, negative epistemological predicament.

¹¹¹ See Polanyi, Personal Knowledge, 61, 120, 371-72; and Polanyi and Prosch, 43.

¹¹² The similarities between Whitehead and Polanyi in this concept of a future pull have been exegeted by several theorists. Grene observes that the telic phenomenon of Polanyi yields a future drawn structure that is similar to Whitehead's prehension or lure. See Grene, 244-45. Bennett offers the distinction between the two as rooted in the source of the teleological thrust. For Polanyi that source is imagination; for Whitehead that source is creativity. See Bennett, "The Tacit in Experience," 46; and Thomas Early, "Polanyi and Process Philosophy," Agora 4 (1979-80): 54.

¹¹³ Polanyi, Personal Knowledge, 269.

¹¹⁴ Polanyi, Personal Knowledge, 268.

¹¹⁵ Polanyi, Personal Knowledge, 272.

¹¹⁶ Polanyi, Personal Knowledge, 294.

¹¹⁷ Polanyi, Personal Knowledge, 297. Apczynski summarizes this point: "What is it that science doubts? Certainly not everything. Only those things are to be doubted which should be reasonably doubted. But what constitutes reasonable doubt? Nothing we could explicitly formulate would ever cover the range of valid applications of a rule of doubt. Scientists' implicit beliefs spill over to allow a seemingly objectivist appraisal of doubt to operate in practice." Apczynski, 22.

¹¹⁸ See Polanyi, Personal Knowledge, 297 and 271. See also Personal Knowledge, 267, where Polanyi posits: "While our acceptance of this framework is the condition for having any knowledge, this matrix can claim no self-evidence. Although our fundamental propensities are innate, they are vastly modified and enlarged by our upbringing; moreover, our innate interpretations of experience may be misleading, while some of our truest acquired beliefs, though clearly demonstrable, may be most difficult to hold. Our mind lives in action, and any attempt to specify its presuppositions produces a set of axioms which cannot tell us why we should accept them."

Polanyi does not interpret a-critical as a-rational. A-critical knowledge partakes of rationality. The criteria Polanyi uses to ascertain rational, a-critical knowledge will be discussed in the subject-object dualism section. Here, the point being made is that a-critical for Polanyi is definitive of the fiduciary-rootedness of all knowledge.

¹¹⁹ Polanyi and Prosch, 63.

¹²⁰ Prosch, 73. Colin Grant makes a penetrating observation that in its attempt to grasp reality through total detachment, positivism ironically fosters attachment to self rather than detachment from self. He points out that when indwelling and its from-to structure is mitigated, attachment in the form of self-consciousness, and not detachment, results. Indwelling and its from-to structure directs us away from ourselves and thus has an inherent non-self-consciousness dynamic. Grant's provocative analysis is illuminative of the Cartesian self-consciousness and inner self. Grant, "Identifying the Theological Enemy," 261-62.

¹²¹ Polanyi, Personal Knowledge, 214.

¹²² Polanyi, Personal Knowledge, 312.

¹²³ Polanyi, "Faith and Reason," 244. The possibility of reducing error through evidence is discussed by Polanyi. Two types of evidence are posited: verification, or external evidence, and validation, or internal evidence. The structure of commitment is unchanged in both, but the depth is greater in validation. Natural science uses verification;

mathematics, religion, and the arts use validation. See Personal Knowledge, 202, 321. Also Prosch discusses the function of the two in depth (see pp. 235-36, 264-65).

124 Grene, 82.

125 Poirier, "Michael Polanyi and the Question of 'Objective' Knowledge," 320.

126 Polanyi, Personal Knowledge, 289.

127 Polanyi, Personal Knowledge, 21.

128 Polanyi, Personal Knowledge, 256. Polanyi counters the individualism and solipsism which is intimated in this citation with his criteria of "personal responsibility to and conviviality with one's community" or "the responsible sense of obligation to the truth." This criteria will be explored in the subject-object section (see pp. 275-79).

129 Grene, 81.

130 Apczynski, 39.

131 Polanyi, "The Creative Imagination," Chemical and Engineering News, April 1966: 91, cited in Apczynski, 68. See also Polanyi, Personal Knowledge, 299.

132 Apczynski, 69.

133 See Kane, 36; and Polanyi, Personal Knowledge, 300, 302, 312. Polanyi here posits that one of the distinctions between the two is that subjective states are merely "endured," "suffered and enjoyed," while personal states are chosen and thus actively entered upon. Such a distinction underlies his claim that "subjective knowing is classed as passive; only knowing that bears on reality is active, personal, and rightly to be called objective." Personal Knowledge, 403. Further, on occasions Polanyi links subjective with error or ways to "go wrong." See Personal Knowledge, 37, 361.

The untangling of this language needs to be pushed one step further. "Object" and "subject" are not equivalent to "explicit" and "tacit." What is object is not synonymous with what is explicit and what is subject is not synonymous with what is tacit. As Maben Walter Poirier has noted, tacit and explicit make reference to the act of knowing, while object and subject make reference to the content of knowledge and where it is located, outside or within the mind. As Descartes has so vividly shown, one can have explicit knowledge of what is "subject"; one can also have tacit knowledge of what is

"object." Maben Walter Poirier, "A Comment on Polanyi and Kuhn," Thomist 53 (April 1989): 273.

134 Polanyi, Science, Faith and Society, 21. See also "Tacit Knowing: Its Bearing on Some Problems of Philosophy," Knowing and Being, 179-80; Personal Knowledge, vii; and The Tacit Dimension, 77, 82.

135 Polanyi, "Science and Reality," British Journal for the Philosophy of Science 18 (1967): 177-96, cited in Poirier, "A Comment on Polanyi and Kuhn," 268.

136 Poirier, "Michael Polanyi and the Question of 'Objective' Knowledge," 320.

137 Polanyi, Personal Knowledge, 403.

138 Polanyi, "Knowing and Being," Knowing and Being, 136. See also "Knowing and Being," 133; "The Logic of Tacit Inference," Knowing and Being, 141; and "Tacit Knowing: Its Bearing on Some Problems of Philosophy," Knowing and Being, 168.

139 Polanyi, The Tacit Dimension, 32-33.

140 Prosch, 137-38. Apczynski identifies four interdependent senses in which Polanyi uses the term "reality." (1) The primordial sense of reality invoking that which exists independently of our focal or explicit knowledge of it. (2) The concept of reality embedded in the phrase "aspect of reality." Polanyi's use of reality in this phrase is ambivalent. It often refers to the first sense, but at other times invokes the third and fourth senses. (3) The recognition of the levels of reality, the "degrees of being." (4) The sense of reality as a criterion, measuring the ability of something to manifest itself in some new and unexpected ways. In this comparative use of the term, objects betray signs of their degree of reality. See Apczynski, 132-34. Marjorie Grene names this fourth sense as "depth of being" or intensity as distinct from facticity of existence or non-existence. In her analysis Grene contrasts Polanyi's criterion of fruitfulness with the concept of fruitfulness in positivism and pragmatism. See Grene, 220-22.

141 Polanyi, "The Unaccountable Element in Science," Knowing and Being, 119-20.

142 The phrase is M. W. Poirier's. See Poirier, "A Comment on Polanyi and Kuhn," 273.

¹⁴³ Poirier analyzes Polanyi's use of the word "objective" in light of its reference to two different things: (1) its reference to neutral knowledge; and (2) its reference to the traditional concept of "objective" knowledge, the knowledge of what is, of what is real and true. Poirier observes that when Polanyi uses objective in the first sense, he virtually always adds the qualifiers "purely," "completely," "perfect," or even "detached," to the words "objective knowledge." When he uses objective in the second sense these qualifiers are omitted. Poirier insightfully argues that the linkage of objective knowledge with such qualifiers indicates Polanyi's attempt to draw attention to a special use and misuse of "objective." Thus, the term "objectivism" points to this ideology of impersonal, disincarnate, and neutral knowing which Polanyi opposes. See Poirier, "Michael Polanyi and the Question of 'Objective' Knowledge," 318-19.

¹⁴⁴ Poirier offers an illuminative historical analysis of the shift in the meaning of "objectivism." Prior to the rise of positivism, objectivism denoted the reality which existed independently of oneself. But under the influence of positivism "objectivism" came to be equated with knowledge which was gained through the testing by independent and impartial criteria, with knowledge which met procedural standards. Poirier re-claims the original meaning of objectivism, and finds Polanyi to be thoroughly objectivist. In the original meaning of objectivism, the opposite of subjectivism was not objectivism, but rather neutralism. See Poirier, "A Comment on Polanyi and Kuhn," 275-78; and "Michael Polanyi and the Question of 'Objective' Knowledge," 315-24.

¹⁴⁵ Polanyi, Personal Knowledge, 302.

¹⁴⁶ See Polanyi, Personal Knowledge, vii, 310, 312, 396.

¹⁴⁷ See Polanyi, Personal Knowledge, 315, 316, 389. Polanyi does acknowledge the epistemological role of contextual particularities of settings, interests, skills and experience, the "accidents or conditions of personal existence." However, such particularities are opportunities for exercising personal responsibility toward the one reality or truth which emerges as persons build the commonalities of shared life and search, the community and the consensus. See Personal Knowledge, 322-23. The role of this conviviality will be explicated later in the Epistemology section of this chapter of the dissertation under "Authority and Tradition." In his acknowledgment of contextual particularities, Polanyi allows that this one reality and the universal intent of many to make contact with it does not guarantee all will come to the same truth. Personal knowing functions with universal intent but without a guarantee for universal truth. For persons indwell different subsidiaries, and further, have

different training for the effective indwelling of certain subsidiaries. But Polanyi does have a strong monism. He believes that given reality, one can work towards the ultimate coinciding of these different truths into the Truth.

¹⁴⁸ Polanyi, Personal Knowledge, 315.

¹⁴⁹ Polanyi, The Tacit Dimension, 76-77.

¹⁵⁰ Thomas A. Langford and William H. Poteat, "Upon First Sitting Down to Read Personal Knowledge," Intellect and Hope, eds. Langford and Poteat, 15. Langford and Poteat offer an incisive analysis of the confessional rhetorical device used by Polanyi. Polanyi's epistemology is animated by a reflexive enterprise in which statements of knowledge serve as descriptions of one's beliefs. Here the reflexive exercise takes up a first person rhetoric which contrasts with Descartes's third person rhetoric. The first person rhetoric functions to disclose oneself in one's beliefs. Langford and Poteat further observe that the reflexive exercise of describing one's beliefs also functions to give them distance. And, of course, for Polanyi description of beliefs inherently carries the possibility of falseness. See Langford and Poteat, "Upon First Sitting," 14, 17-18.

¹⁵¹ Polanyi, Personal Knowledge, 268. See also 64 and 323.

¹⁵² Colin Grant, "Identifying the Theological Enemy," 259.

¹⁵³ Colin Grant, "Identifying the Theological Enemy," 266. See also Colin Gunton, "The Truth of Christology," Belief in Science and in Christian Life, ed. Thomas F. Torrance, 99.

¹⁵⁴ Polanyi, Personal Knowledge, 308-09. See also 311 and 396.

¹⁵⁵ See Polanyi, Personal Knowledge, 59, 60.

¹⁵⁶ See Polanyi, "Tacit Knowing: Its Bearing on Some Problems of Philosophy," Knowing and Being, 162, 180.

¹⁵⁷ Robert Innis, "Polanyi's Model of Mental Acts," The New Scholasticism (Spring 1973): 152-53, cited in Kane, 106.

¹⁵⁸ Webb, 44.

¹⁵⁹ Polanyi, "Logic and Psychology," 33.

¹⁶⁰ Edward Pols argues that this separation is not historically invariant. For instance, it is not inherent in the Platonic tradition. Pols states: "For that tradition the

knower directed himself towards what was most real because also most valuable, and it required consequently the complete integration of his passional nature into the order of the virtues for his cognitive nature to function as it should and to permit him to know what Plato called the really real. The epistemological and metaphysical sections of The Republic offer us probably the most coherent version of such an outlook. In this limited sense of an interdependence of our valuing and cognitive 'faculties,' knowledge of the real is for Plato a personal matter." Pils, 58 (emphasis added). Pils places the beginning of the separation of knowing and valuing with Descartes and then follows the trajectory of the separation into Kant. "Kant is concerned in the first critique to analyze the necessary structure of our knowing, but turns in the second and third critiques to consider the springs of right action and of aesthetic judgment. The two realms are separate, and their findings are at odds about the most important matters. It is the whole point of the later critique that they are not concerned with what we can know, but with what we can judge to be right or beautiful." Pils, 59 (emphasis added).

Jerry Gill gives an illuminative discussion of the fact-value dichotomy as it resides in both empiricism/positivism and existentialism. Each philosophy disagrees with the other in the role of objective and subjective experience (empiricism/positivism legitimates objective experience and existentialism legitimates subjective experience; empiricism/positivism de-legitimizes subjective experience and existentialism de-legitimizes objective experience). However, both agree on the division of human experience into the fact-value dichotomy. See Jerry Gill, "The Tacit Structure of Religious Knowing," International Philosophical Quarterly 9 (December 1969): 533-35.

¹⁶¹ Polanyi and Prosch, 64.

¹⁶² Prosch, 32.

¹⁶³ Polanyi and Prosch, 65. See the entire discussion, 63-69.

¹⁶⁴ Polanyi, "The Logic of Tacit Inference," Knowing and Being, 156.

¹⁶⁵ Polanyi, "Faith and Reason," 244. See the entire article as well as Polanyi's "Science and Religion" article.

¹⁶⁶ Polanyi, "Science and Religion," 14.

¹⁶⁷ Grene, cited in Prosch, 238.

¹⁶⁸ Prosch, 151, 235. Bruno Manno describes the distinction as a difference in the degree of personal participation. See Bruno Manno, "Michael Polanyi and Erik Erikson: Towards a Post-Critical Perspective on Human Identity," Religious Education 75 (March-April 1980): 208. However, a careful reading of Polanyi confirms Prosch's and Grene's interpretation that Polanyi is explicating a difference in kind.

¹⁶⁹ See Polanyi and Prosch, 71, for a comprehensive list of these illustrations.

¹⁷⁰ Polanyi's explication of these kinds of knowing is in his chapter on "From Perception to Metaphor" in Polanyi and Prosch. (See especially pp. 69-75.) Also, Prosch concisely summarizes Polanyi's argument in his book. See Prosch, 152-55.

Polanyi further develops the distinction between self-centered and self-giving knowing with the categories of "natural" and "transnatural." The incompatibilities of the particulars that form natural integrations (integrations of the mundane world) are to be distinguished from the incompatibilities of the particulars that form transnatural integrations (integrations of art, poetry, and myths). See Polanyi and Prosch, 125.

¹⁷¹ Prosch, 236. See also 264-65.

¹⁷² Prosch, 238. Prosch himself argues that the "fissure" is warranted and that the dualism cannot be avoided (pp. 258-71). The dualism Polanyi holds here does present major questions to this previous assertion that the distinctions between science and religion need to be dissolved. It is interesting that a major book upon Polanyi's relation to faith never addresses the issue of this dualism. Nowhere in Thomas Torrance's book, Belief in Science and in Christian Life: The Relevance of Michael Polanyi's Thought for Christian Faith and Life, is religious knowing as embodied in the self-giving distinction discussed. Most of the book draws upon Polanyi's concept of knowledge as taking up various forms by virtue of the stratified universe. Given the silence on the self-giving distinction of kind, the book's repeated claim for the common ground between religious and scientific knowing is credible. However, when the discussion of the relationship is inclusive of Polanyi's self-centered and self-giving categories, the argument for a common ground becomes much more dubious.

¹⁷³ See Polanyi, Personal Knowledge, 279-85 (especially 279-82), for an in-depth explication of religious knowing. Here Polanyi contends that the belief "God exists," as an a-critical and "non-explicitly dubitable" expression, posits a "dwelling place" for the mind. Thus, "theology reveals, or

tries to reveal, the implications of religious worship, and it can be said to be true or false, but only as regards its adequacy in formulating and purifying a pre-existing religious faith" (p. 281, emphasis added).

¹⁷⁴ Cited in Prosch, 255.

¹⁷⁵ Prosch, 255.

¹⁷⁶ Polanyi, "Sense-Giving and Sense-Reading," Knowing and Being, 195.

¹⁷⁷ Polanyi, "On Body and Mind," 195-96. Thomas Early compares Whitehead and Polanyi on this location of mind. While both Whitehead and Polanyi agree that the mind is an inner principle of integration, Whitehead locates the presence of a "unitary primordial mind even in the sub-atomic levels" of being. Polanyi, however, reserves the concept of mind for the more highly "intensive and integrated self ordering centers." Thus, for Polanyi, mind is reserved for the macro-molecular levels. See Early, 50.

¹⁷⁸ Polanyi, The Tacit Dimension, 15. See also, The Study of Man, 31. In Personal Knowledge Polanyi so emphasizes the instrumental nature of the body that his discussion turns to mechanical images. The body is analogous to machinery. See Personal Knowledge, 335, 342. He even entitles a section of the discussion "Living Machinery" and therein explicates the similarities and distinctions of the bodily organs and machinery parts. See Personal Knowledge, 359-60.

¹⁷⁹ Polanyi, "The Logic of Tacit Inference," Knowing and Being, 147; and "Tacit Knowing: Its Bearing on Some Problems of Philosophy," Knowing and Being, 159. As will be explicated subsequently in the "retention of the dualism" section of this chapter of this dissertation, this premise is rooted in the epistemological difference between the knowledge of an observer looking at the body and the knowledge of one looking from the body and integrating the body subsidiaries into a focal knowledge (see pp. 289-91).

¹⁸⁰ Robert E. Innis, "The Logic of Consciousness and the Mind-Body Problem in Polanyi," International Philosophical Quarterly 13 (March 1973): 83.

¹⁸¹ Kane, 127.

¹⁸² Polanyi and Prosch, 51. See also p. 46.

¹⁸³ Polanyi, "Logic and Psychology," 39.

¹⁸⁴ Polanyi, "Logic and Psychology," 39. See also Polanyi and Prosch, 48-49, for a repetition of this argument.

¹⁸⁵ Polanyi, "Life's Irreducible Structure," Knowing and Being, 238. See also Polanyi, "Logic and Psychology," 40.

¹⁸⁶ Kane, 127. This writer disagrees with Kane's claim that Polanyi posits the separability of mind and body, as will be subsequently addressed in the section on "overcoming the dualism." However, Polanyi's assertion of the radical distinction between mind and body and his fundamental linkage of body with other subsidiary entities which are external to and separable from the mind make Kane's reading of Polanyi understandable.

¹⁸⁷ See Polanyi, The Tacit Dimension, 34-36.

¹⁸⁸ See Polanyi, Personal Knowledge, 387; and The Tacit Dimension, 35. Here Polanyi posits that the stratas of realities in the universe are joined together in pairs of higher and lower stratas. In The Study of Man Polanyi describes the lower and higher in terms of the movement from two logical, hierarchial levels, to three, in certain forms of discourse about vegetative and animal life (pp. 75-76). The stratas are explicated in another discussion through the linkage of the concept of commitment with the increasing consciousness of ontological entities from "primordial" to "primitive" to "responsible." See Personal Knowledge, 363.

¹⁸⁹ Polanyi, "Life's Irreducible Structure," Knowing and Being, 233.

¹⁹⁰ See Polanyi, The Tacit Dimension, 49; "The Logic of Tacit Inference," Knowing and Being, 154; "Life's Irreducible Structure," Knowing and Being, 233; and Polanyi and Prosch, 50.

¹⁹¹ Polanyi, "Science and Religion," 13.

¹⁹² See Polanyi, The Study of Man, 47, 59, 82; Personal Knowledge, 393-94; and "Science and Religion," 12.

¹⁹³ See Grene, 241. In the description of reality here Grene cites Polanyi from his fourth Duke lecture.

¹⁹⁴ Kane, 65.

¹⁹⁵ Kuhn, 120.

¹⁹⁶ Bennett, 42. See Polanyi, "Science and Religion," 9; and "The Logic of Tacit Inference," Knowing and Being, 155.

197 John C. Puddefoot, "Indwelling: Formal and Non-Formal Elements in Faith and Life," Belief in Science and in Christian Life, ed. Thomas F. Torrance, 34.

198 Prosch, 228.

199 Polanyi, The Tacit Dimension, 37. This polemical accent occurs throughout the Polanyian corpus. Some of those incidents include: Personal Knowledge, 383, 389, 399; The Study of Man, 64; Polanyi and Prosch 178; and "Science and Religion," 10.

200 Polanyi, "On Body and Mind," 203. This point is Polanyi's major critique of behaviorism. His second critique is that it seeks to make explicit what can never be completely identified or specified. Behavior which bears on the mental state does so subsidiarily, as parts of the whole, and therefore, is unspecifiable. Thus, behaviorism's goal of a strictly explicit knowledge is unmasked as an illusion when the essential tacit nature of all meaning is realized. See Personal Knowledge, 370-72; "On Body and Mind," 202-04; "Tacit Knowing," Knowing and Being, 169; "Sense-Giving and Sense-Reading," Knowing and Being, 195; "Logic and Psychology," 34; and The Study of Man, 65.

201 The phrase is Polanyi's. See Polanyi, "The Two Cultures," Knowing and Being, 46. In a footnote on this page Polanyi tells this anecdote which illustrates the influential hold of the behavioristic paradigm. "When I urged a meeting of the American Association of the Advancement of Science (held in New York at Christmas, 1956) to recognize the absurdity of regarding human beings as insentient automata, the distinguished neurologist, R. W. Gerard, answered me passionately: 'One thing we know, ideas don't move muscles!' I could not believe my ears."

202 Grene, 202.

203 Polanyi, The Tacit Dimension, 33. See the previous discussion of this premise in the "Subject-Object" dualism section of this chapter of this dissertation, especially pp. 272-74.

204 Polanyi, "Knowing and Being," Knowing and Being, 134. See also "The Logic of Tacit Inference," 147; and Polanyi and Prosch, 49.

205 Bennett, 37. Bennett explicates the centrality of embodied knowledge for both Whitehead and Polanyi.

206 Fraser Cowley, A Critique of British Empiricism (New York: Macmillan, 1968), 5, cited in Hall, 272-73.

207 Polanyi, "Faith and Reason," 245.

208 Yeats, cited in Langford and Poteat, 55.

209 Polanyi often employs the concepts of gradation, transition, and gradual flow, and thus poses a continuity between categories of existence. See The Study of Man, 26, 72-73; Personal Knowledge, 70, 133, 363; and "Science and Religion," 12. Further, the concept of continuous gradation resides in Polanyi's linkage between "knowing how" and "knowing what." "Knowing how" invokes the knowledge of the body in muscular skills; "knowing what" invokes mental concepts and ideas. Polanyi posits that there is a transition between the two, such that the structure is similar. See Personal Knowledge, 56. In addition, Polanyi uses this concept of continuous gradation to advocate for the gradual and continuous linkages between science and the arts. See Personal Knowledge, 194, 321.

210 Grene, 242-43.

211 Polanyi, Personal Knowledge, 300.

212 Polanyi, Personal Knowledge, 64. See also Science, Faith and Society, 40-41, for another classic Polanyian description of scientific knowing. In this passage Polanyi speaks of the premises of science being subscribed to by "an act of devotion." He continues by describing the "emotional and moral surrender to science" as "promoted by a love of science and a faith in its great significance which precedes any real understanding of it." The passage uses the concepts of "inspiration," "passionate absorption," and "love and solicitude," to explicate how a person comes to learn science.

213 Polanyi, Personal Knowledge, 133. See also 194, 321. Polanyi links mathematics and music in one of his discourses, noting that both mathematics and music "articulate a vast range of rational relationships for the mere pleasure of understanding them" (p. 193, emphasis added).

214 Polanyi, "Logic and Psychology," 32.

215 Polanyi, "Faith and Reason," 243.

216 Polanyi and Prosch, 134. Elsewhere Polanyi makes this claim even more explicitly: "For, once you face up to the ubiquitous controlling position of unformalizable mental skills, you do meet difficulties for the justification of knowledge that cannot be disposed of within the framework of rationalism." "The Unaccountable Element in Science," Knowing and Being, 106.

217 Polanyi, Personal Knowledge, 133-34. See the entire chapter.

218 See Polanyi, "The Unaccountable Element in Science," Knowing and Being, 120; and Personal Knowledge, 130, 308.

219 Polanyi, Personal Knowledge, 135. Further on in Personal Knowledge Polanyi names all three of these functions of intellectual passions to be: Affirmative, Heuristic, and Persuasive (p. 159).

220 Polanyi, Personal Knowledge, 127-28.

221 Polanyi, Personal Knowledge, 173. In reference to mathematics Polanyi asserts that it is the "emotional colour of mathematics "[which] justifies its acceptance as true." Personal Knowledge, 188.

222 Polanyi, "The Unaccountable Element in Science," Knowing and Being, 108. In this context Polanyi is explicitly discussing mathematics. The insertion of "formal reasoning" comes from Personal Knowledge, 131, where Polanyi makes the same point in reference to "formal reasoning."

223 See pp. 236-37 of this dissertation for a statement of the problem.

224 Polanyi, "Faith and Reason," 243.

225 Polanyi, "Tacit Knowing: Its Bearing on Some Problems of Philosophy," Knowing and Being, 171.

226 Polanyi and Prosch, 62.

227 In Meaning, Polanyi posits: "All integration must rely on the services of the imagination, but the imaginative powers at work become substantial, and indeed massive, as the elements to be integrated become increasingly disparate" (p. 133). Thus, works of art, religion, morals, and other such epistemological arenas employ greater degrees of intuition and imagination than some scientific arenas. It should also be noted here that while this discussion is using intuition and imagination interchangeably, Polanyi's understanding of their interchangeability is uneven. He does make a technical distinction between them. Imagination sets before the knower the focal point to be aimed at. Intuition supplies imagination with the subsidiary clues and the measurement of the feasibility of the goal. Thus, intuition functions at the subsidiary level and guides imagination. See Polanyi and Prosch, 96-97; Prosch, 103-04; and James Wagener, "Toward a Heuristic Theory of Instruction: Notes on the Thought of Michael Polanyi," Educational Theory 20 (Winter 1970): 49.

- 228 See Polanyi, Personal Knowledge, 128, 143.
- 229 Torrance, "The Framework of Belief," 8-9.
- 230 Polanyi, "Logic and Psychology," 42.
- 231 Polanyi, "Tacit Knowing: Its Bearing on Some Problems of Philosophy," Knowing and Being, 173.
- 232 Gunton, "The Truth of Christology," 98.
- 233 Polanyi, "Logic and Psychology," 27.
- 234 Polanyi and Prosch, 195. See also Polanyi, The Tacit Dimension, 78-79.
- 235 See Polanyi, The Study of Man, 28; and Personal Knowledge, 97-98.
- 236 Prosch, 65-66. Prosch incisively links this critique of Gestalt to Polanyi's critique of behavioristic conditioning. For if knowing requires an intentional and purposive integration act, then knowledge is not caused by a passive conditioning process.
- 237 See Gill, "The Tacit Structure of Religious Knowing," 538; Apczynski, 45; and Kuhn, 134. For Polanyi's equation of knowing and acting see Personal Knowledge, 65, 313, 403; "Knowing and Being," Knowing and Being, 126; "Science and Religion," 6; and Polanyi and Prosch, 42.
- 238 Polanyi, Personal Knowledge, 53. See also pp. 88, 206; and Science, Faith and Society, 44. This model of craftsmanship is again used by Polanyi to critique the deification of mechanical processes and their incipient epistemologies. At one point Polanyi bemoans the shift away from the knowing of craftsmanship to the knowing of technology: "It is pathetic to watch the endless efforts--equipped with microscopy and chemistry, with mathematics and electronics--to reproduce a single violin of the kind the half-literate Stradivarius turned out as a matter of routine more than 200 years ago." Personal Knowledge, 53.
- 239 Polanyi, Personal Knowledge, 54. Polanyi further explicates the model of epistemological connoisseurship by naming one of its implications to be the self-set standards which was referred to previously (see pp. 267-69). In the connoisseurship paradigm standards of excellence reside in one's own judgment which is anchored in a tacit rootage. See Personal Knowledge, 64-65.
- 240 Polanyi, "Faith and Reason," 239.

²⁴¹ See Polanyi, Personal Knowledge, 207-08. The reliance upon authority does decrease as one becomes more adept at one's own tacit integration. See "Science and Religion," 31; and Personal Knowledge, 208. But as Harry Broudy observes, in a science-based technological society persons never outgrow their need to trust the expert, for there is so much knowledge that persons can't know personally what to believe. See Harry Broudy, "Tacit Knowing as a Rationale for Liberal Education," Teachers College Record 80 (February 1979): 459.

²⁴² Polanyi, Personal Knowledge, 53.

²⁴³ See Polanyi on conviviality in Personal Knowledge (Chap. 7). Naming one of his books Science, Faith and Society, Polanyi explicates the integral connection between science and faith and the community which undergirds the knowing enterprise. Polanyi should not be misunderstood here to be arguing that the community is always right vis-a-vis an individual. Individual conscience may need to deviate from the community but such deviation is never to be undertaken lightly.

²⁴⁴ Apczynski, 170.

²⁴⁵ Polanyi, Science, Faith and Society, 44.

²⁴⁶ Polanyi, The Tacit Dimension, 82.

²⁴⁷ Polanyi, The Study of Man, 31. See also "Knowing and Being," Knowing and Being, 134; Personal Knowledge, vii, 64; and Polanyi and Prosch, 62.

²⁴⁸ See Polanyi, Personal Knowledge, 208.

²⁴⁹ Grene, 58.

²⁵⁰ Apczynski, 44.

²⁵¹ Polanyi, "Faith and Reason," 242.

²⁵² Thomas Langford, "Michael Polanyi and the Task of Theology," Journal of Religion 46 (January 1966): 45. Thomas Early rightly observes that although the term "heuristic field" was introduced only in the last two pages of Personal Knowledge, it was tacitly working and emerging throughout that text. See Early, 46.

²⁵³ Polanyi often called attention to the practice of scientists to "ignore evidence which appears incompatible with the accepted system." It is a common heuristic act for which there is no rule to apply which would protect one from it. As Polanyi asserts: "[T]here is, unfortunately, no rule by

which to avoid the risk of occasionally disregarding thereby true evidence which conflicts (or seems to conflict) with the current teachings of science. During the eighteenth century the French Academy of Science stubbornly denied the evidence for the fall of meteorites, which seemed massively obvious to everybody else. Their opposition to the superstitious beliefs which a popular tradition attached to such heavenly intervention blinded them to the facts in question." Personal Knowledge, 138. Polanyi notes in a footnote that many public museums in Germany, Denmark, Switzerland, Italy and Austria threw away precious meteorites.

²⁵⁴ Polanyi, Science, Faith and Society, 11. Apczynski explicates the dynamic, logical processes by which such idioms of belief are endowed with this stability to be: (1) circularity; (2) epicyclic reserve of an interpretive system; and (3) suppression of nucleation of new ideas by not allowing them any ground in which to take root. See Apczynski, 67-68.

²⁵⁵ See Polanyi, "Sense-Giving and Sense-Reading," Knowing and Being, 198-200, for a description of the experiment and for Polanyi's interpretation of it.

²⁵⁶ Polanyi and Prosch, 42. See also Polanyi, "The Structure of Consciousness," Knowing and Being, 212; and Personal Knowledge, 151.

²⁵⁷ The phrase is Polanyi's. See Polanyi, "The Message of the Hungarian Revolution," Knowing and Being, 31.

²⁵⁸ The phrase is Polanyi's. See Polanyi, Personal Knowledge, 151.

²⁵⁹ For Polanyi's attempt to keep a strong accent of realism and impersonal criteria in the context of the personal contribution of the knower see Polanyi, The Tacit Dimension, 77; and "Logic and Psychology," 28.

²⁶⁰ Prosch, 74-75. See the previous discussion of the skewed room experiment on p. 248 of this dissertation and note 60.

²⁶¹ Daniel W. Hardy, "Christian Affirmation and the Structure of Personal Life," Belief in Science and in Christian Life, ed. Thomas F. Torrance, 76.

²⁶² Polanyi, "Sense-Giving and Sense-Reading," Knowing and Being, 199-200.

²⁶³ Kane, 148.

²⁶⁴ Polanyi, Personal Knowledge, 305.

265 Innis, "The Triadic Structure of Religious Consciousness in Polanyi," 410-11.

266 See Hardy, "Christian Affirmation and the Structure of Personal Life," Belief in Science and in Christian Life, ed. Thomas F. Torrance, 76; and Wagener, 49-50. See also Polanyi, "Knowing and Being," Knowing and Being, 134.

267 Gill, "The Case of Tacit Knowledge," 57.

268 Gill, "The Case of Tacit Knowledge," 59.

269 See note 53 for the identification and description of the four aspects of the tacit structure.

270 Polanyi, "Sense-Giving and Sense-Reading," Knowing and Being, 181-83.

271 Patrick Grant, "Michael Polanyi: The Augustinian Component," 458.

272 Torrance, Introduction to Belief in Science and in Christian Life, ed. Thomas F. Torrance, viv.

CHAPTER 5

Epistemology of Deep Truth

Faith knowing never takes place in a vacuum. As a form of knowing it occurs within the knower's experience of reaping knowledge and meaning from one's presence within reality itself. And how the knower understands him/herself as a knower shapes how he/she experiences faith knowing. Thus, this study locates faith knowing within the whole experience of knowing and fundamentally links the question of how faith knowing occurs with the comprehensive question of how knowing occurs. One of the persistent impediments to discerning the knowing constitutive of deep faith knowing is the epistemological simplification and trivialization of the commonly held Cartesian and positivistic dualisms. Therefore, this study posits an alternative model. It is within a more wholistic and adequate model of knowing that faith knowing can find an epistemological home.

Faith knowing is an experience of knowing deep truth. As a knowing which constitutes our being, faith knowing is anchored in an experience of knowing not primarily with our minds, but with our lives. As Raimundo Panikkar has described

it, faith knowing is knowing with the "bowels." In contrast to knowledge seen on a chalkboard to which one says, "Ah, yes, I agree it is so," faith knowing is so deep within the knower that it grabs him/her.¹ The faith knowing of deep truth corresponds to that knowledge which has so thoroughly soaked into the knower that it functions as a mental habit rather than a formal statement.²

Just as in all knowing, religious knowing partakes of layers of knowing.³ A continuum of experience underlies the knower's interaction with reality such that the resultant knowledge falls along a continuum from the simple and superficial knowledge of the chalkboard to the tacit and depth knowledge of the "bowels." Thus, while all knowing has its base in experience which can lead to deep truth, not all knowing partakes fully of the experience. For faith knowing, the epistemological issue at stake is depth, the depth of ingression in the noetic life of the person. While the Cartesian emphasis upon clear and distinct ideas may be adequate to describe the knowing of religious beliefs, beliefs which can be listed on the chalkboard, it wedds the knower to surface truth and eclipses the knowing of faith, faith which is fashioned within the depths of being. Thus, the epistemological analysis of faith knowing requires the depths provided by Whiteheadian and Polanyian models. But, with Whiteheadian and Polanyian conceptuality, it must be asserted that the increased richness which characterizes deep knowing

must not be mistaken for an essential difference from surface knowing.⁴ Different levels of knowing do not constitute different kinds of knowing. All knowing, by virtue of the patterns of experience that engender it, is essentially of one kind, experiential.

How do we come to know faith, to know in the deepest levels of our being the Holy presence of that which transcends our being? What is the nature of that knowing experience and how does it occur? The following epistemological model of faith knowing of deep truth will address those questions within three frames: process, categories and characteristics. What is the process by which this knowing takes place? What are the basic epistemological categories which name its forms of knowledge? In light of both its process and categories, what are the basic characteristics which mark its presence? Following the model's explication, the discussion will draw some of these inherent issues into a focus upon the knowing of mystery.

Process of Knowing

The process of faith knowing of deep truth is discerned through four windows. The view through each window offers a distinct angle of vision upon the process, angles which highlight and shade different portions of the process. Moving around the windows, the viewer knows the whole through the integration of the four views. The four windows are: process as intra-experience, process of subject-object

interrelationship, process within being, and process as reliance.

Intra-Experience

The process of faith knowing is discerned through the window of intra-experience. The angle of vision given by this window is characterized by two highlights: its experiential base and its "intra-" accent. Both need explication.

Once Descartes separated mind and matter, scientific positivism established matter as the foundation of epistemological activity.⁵ However, the starting point and grounding of knowing, and especially of faith knowing, is not matter, but experience. Fundamentally, reality, as Whitehead asserts, is experience, the process of coming to be, the process of relating elements into an occasion. This process of coming to be defines the experience in which knowing resides. For faith knowing, the experience is thus one of coming to faith. The dynamic base of faith knowing actualizes a "faith-ing," an experience of the "coming-to-be-of-faith." In Whiteheadian conceptuality, since reality is the becoming of an entity and not its completion,⁶ faith reality is constituted by the endless minuscule experiences of such "faith-ing." The experience of the "coming-to-be-of-faith" is primary; the faith occasion itself is derivative.

Just as the root structure of faith reality is an event, so the root structure of its knowing is an experience. David Bohm pushes this assertion even further and posits that

experience and knowing are one process and therefore we can refer to this one process as "experience-knowledge." The hyphenation of "experience-knowledge" signals that the two are inseparable aspects of one movement.⁷ Therefore, to discern the patterns of experience is to discern the patterns of knowing itself. Experience-knowing crystallizes the fundamental shift of the genesis of epistemology from bits of matter to the process of experience.

This experiential nature of faith knowing manifests itself, even more deeply, as an intra-experiential process. It is a process internal to experience. The issue here is the issue of boundaries. As an internal knowledge, faith emerges from and is bounded by knowers' experiences. Experience is its dwelling place. As Polanyi observes, God can only be known by serving God,⁸ by being an insider. By participating, by dwelling in the experience, faith knowing occurs. There is no outside vista from which one can look upon and come to know faith. In linking the Polanyian construct of "dwelling in" to experience, this epistemology posits that faith knowing is a function of being inside. As the faith knower dwells in the faithing experience, faith is known by virtue of its being home.

As intra-experiential, faith knowing spawns knowledge through its linkage with reality. However, in contrast to epistemological theories based in a vision of reality as static matter, this epistemology understands reality as

becoming experiences. Therefore, faith knowledge reaps epistemic justification, not through traditional correspondence or coherence theories of truth, but through "experiential adequacy" or "fit."⁹ Since reality is processive, knowledge spawned by it attains its veracity by its experiential fit. John Westerhoff testifies to this intra-experiential nature of faith knowing as home and to faith knowledge which is justified by its "fit":

The Christian faith is true for me because I was adopted and inducted into, and nurtured by a community that lives by this faith. I became a conscious Christian when, in full possession and use of my human faculties and in full awareness of other possibilities, I reflected upon my participation in the life of the church and discovered that the only way to make sense of that experience was to commit myself to the faith upon which it is founded.¹⁰ (emphasis added)

Knowledge becomes a category of being false to or true to the root structure of reality as experience. Thus, experience-knowing engenders faith knowledge which can only be accredited by its fit with the knower's dwelling place, with home.

Experience constitutes the epistemological grounds, the boundaries, and the justification of faith. The intra-experiential nature of faith knowing calls into question the traditional view of education in the church. Education in the church is commonly understood as a process in which teachers teach Bible or beliefs or faith to students. But to speak of faith knowing as fundamentally intra-experiential is to understand education as a process in which the elements of

teachers, students, Bible, beliefs, and chalkboard, are all within the experience of doing faith.¹¹ In Whiteheadian conceptuality, all are in the experience, and at the same time, having the experience of "faith-ing." All participate in, by virtue of their being enclosed within, the common experience-knowing. And the knowledge engendered by this experience-knowing acquires truth to the degree it fits within this epistemic home, as well as the larger epistemic home, of the knower.

The intra-experiential nature of faith knowing shifts the basic epistemological ground from matter to experience. In addition, it shifts the ground from mind to experience. The Cartesian anchoring of knowing to an intra-mental activity is eschewed in this epistemology through the metaphysical claim of experience-knowing which devoids the fundamental inner-outer dualism of self and world. The intra- category of knowing is intra-experience and not intra-subject. Knowing is not internal to the subject but internal to the subject's experience. There is a deep level of interiority in knowing but that interiority belongs to the experience, specifically to the experience of the subject-object interaction (which will be subsequently discussed), and not to the subject, specifically to the mind of the subject. The solipsism and privatization of the Cartesian accent upon intra-mind is here countered by a recasting of inner as primarily constitutive of the epistemological experience rather than of the knower.

When interiority is discerned not as the private, inner space of the self, but as the inner space of experience, of the relating of elements of which self is only one, that interiority functions to engender deep truth as a bridge between self and world.

With that foundational premise in place it must be said that the Cartesian emphasis upon "intra-subject" does carry some epistemological import. The nuances of the epistemological category of inner can be teased out by explicating two senses in which inner becomes a touchstone for the faith knowing of deep truth. Using Whitehead's conceptuality, inner belongs to both the experience of the "coming-to-be-of-faith" and to the actual occasion of faith. Inner is a category of the experience, the primary metaphysical reality, and of the occasion, the derivative actuality. In the primary sense, inner must denote the interiority of the experience-knowing, in which there is no inner and outer for either subject or object, for both are in the experience. In the derivative sense, however, inner denotes the interiority of the actual occasion, in epistemological terms, the subject. The interiority of the subject harbors the inward relatedness of elements which have come to constitute that occasion, its knowledge. Therefore, to think of knowledge as existing prior to the experience or standing outside the knower waiting to be imposed upon him/her is to fail to apprehend the fundamental nature of the knowing

process. Knowledge is an internal construct. It emerges from within the experience-knowing of the subject-object interaction and thereafter resides within the subject. Given its intra-experiential genesis, knowledge is intra-subject. Thus, knowledge, as an inside perspective, is always intimate and personal.¹²

Subject-Object Interrelationship

A second window which offers an angle of vision upon the process of faith knowing of deep truth is the relationship of subject and object. The subject-object relation is the infrastructure of experience-knowing. For the faith knower, the orientation toward how the object, be it the neighbor, a belief, a lifestyle practice, a meaning, or God, is to be related to for its knowing engenders a mode of relationship which either facilitates or impedes its being known as deep truth. The view through this window of the subject-object relationship will first fall upon the traditional understanding of subject-object anchored in the Cartesian and positivistic dualisms. A second look through the window will disclose the problematic nature of the traditional premises for faith knowing of deep truth. A third look through the window will yield a reconstruction of the subject-object relationship for faith knowing.

Dualistic subject-object relations. The Cartesian cogito spawns the dualistic separation of subject and object within the knowing process. The separation of mind from material

crystallizes the concept of subject as one whose essential nature is mind and the concept of object as one whose essential nature is matter.¹³ But even more specifically, the separation of subject and object fortifies the epistemological posture of the subject as inside and the object as outside. Knowing consists of a subject from the inside looking at an object on the outside. The self enclosed nature of the Cartesian subject belies any necessary relationship between what is on the inside and what is outside, between the subject and the object, for each exists as an isolated, autonomous entity. The space between subject and object becomes an "insulating space,"¹⁴ a space which functions to ensure that the boundaries which separate the in from the out remain firm.

This inner-outer dualism grounds the epistemological detachment of both Cartesian and positivistic knowing. The knower from his/her inside vista, detached and apart from the world, looks out upon the world. The world out there, as object, has no integral, essential relation to what is in here, as subject. Given this detached posture the knowing process becomes one of analyzing, measuring, and dissecting, a process of objectifying the known so that it can be handled and controlled from the outside. The paradigmatic process for such knowing is the controlled experiment,¹⁵ a process in which the object is controlled from the outside by the subject who attempts to remove all subjective biases as he/she handles it. Here knowing becomes commensurate with an "onlooker

consciousness,"¹⁶ a consciousness of looking on the world. For the onlooker, knowledge is constituted by mental copies of an outer world,¹⁷ copies which are free from subjective biases.

The subject-object relations of the onlooker epistemology with its concomitant inner-outer dualism is problematic for faith knowing. In a second look through this window of the relationship between subject and object a refocus upon those problems is called for.

Problems of dualistic subject-object relations. One problem of Cartesian and positivistic subject-object relations is externalization. Epistemological externalization inherently diminishes deep knowing. What is fundamentally outside of the knower has little relevance to the knower; what is separate from the knower cannot function to shape the being of the knower. Faith knowing cannot be grounded upon the bedrock of separation. The separation of the knower from the known ushers in skepticism, for once a gap has been established between self contained and isolated subjects and objects the bridging of the gap becomes problematic.¹⁸ Indeed, Descartes himself finds it unavoidable, as his epistemological explications lead him into the haunting question of whether there is an external world. The message here for faith knowing is significant. The bridging of a gap between human faith knowers and God is only a problem if one first establishes humans and God as self contained, isolated

entities and who therefore do face a gap when turning to each other. Skepticism does affirm this gap and struggles with the problem of bridging it. But faith knowing of deep truth cannot be engendered through the veil of skepticism. The fundamental epistemological ground of faith knowing of deep truth cannot be externalization and separation. Subject-object relations which are anchored in such externalization and separation impede faith knowing.

A second problem in the subject-object relations of Cartesian and positivistic epistemologies is their incipient concept of object. Object, in its separation from subject, becomes an ob-ject, a Gegen-stand, that which stands opposed to the subject (or literally, the "standing-over-againstness" one).¹⁹ The inherent antagonism embedded in this definition may be unconscious for many knowers in the modern world, but its ethos infuses their relationship with known objects. The most obvious example of this ethos is the relationship of knowers to the natural world. The ecological crisis engendered by scientific and technological epistemologies is awakening even the most oblivious. In the oppositional relationship between subject and object, control and competition mark subject-object relations. Control and over-againstness have been the underlying pulses of the human's knowing relationship to nature throughout the last two decades.

Faith knowing is mitigated at best, and obliterated at worst, within such relations. Faith as "setting one's heart" cannot be known in subject-object relations of opposition and control. Deep truth is not knowledge that can be evoked or sustained by control and living in opposition to the other. Further, the concept of object as Gegen-stand is deeply problematic for the faith knower when, in the subject-object relations of faith knowing, God becomes the opposed object. This structure of knowing then calls for the knowing of God, as opposed object, through such control mechanisms as analysis and dissection. The knowing of God, as Gegen-stand, one who is over against the faith knower, becomes an alienating knowing rather than a deep knowing of transforming love. Faith knowing of deep truth is blocked by the Cartesian and positivistic concept of object as Gegen-stand.

A third problem in the subject-object relations of Cartesian and positivistic thought is their concept of knowing. The subject-object relations commensurate with the inner-outer dualism engenders a concept of knowing as the reception of sense stimuli and/or as the inferential process of moving from evidence to conclusion. In this subject-object structure, knowing is passive; knowing happens to the subject as the subject looks on or passively encounters an external world. The relationship between the knower's mind and the outside world is static.²⁰ The minimization of the role of experience within this subject-object conceptuality makes it

problematic for faith knowing of deep truth. Passivity and immutability are characteristics of surface living and knowing. Deep knowing emerges from active participation in the experience as the knower becomes engaged with the known. Depths are not obvious. They cannot be passively received or passively engaged by surface stimuli. The depths of the subject and the depths of the object must be actively, consciously or unconsciously, but actively, reached for and engaged in the knowing act. Subject-object relations that minimize the constructs of will, commitment, passion, desire, and participation counter the faith knowing of deep truth.

A fourth problem inhering within the subject-object relations of Cartesian and positivistic epistemologies is the masking of the knower's complicity in shaping the world and the muting of the knower's responsibility to transform the world. In the separation of subject and object, the subject experiences him/herself as non-involved in the way the world is. The way the world is becomes a function of accident rather than of any constitutive presence of the knower. Paulo Freire explicates this effect of dualistic subject-object relations.

For mechanistic objectivism, consciousness is merely a "copy" of objective reality. For solipsism, the world is reduced to a capricious creation of consciousness. In the first case, consciousness would be unable to transcend its conditioning by reality; in the second, insofar as it "creates" reality, it is a priori to reality. In either case [humans are] not engaged in transforming reality.²¹

The subject-object relations underlying onlooker consciousness reinforce a status quo and laissez faire posture toward social and global problems. While the abdication from engagement in transforming reality does not definitively negate the presence of faith knowing of deep truth, for a faith person could deeply hold that it is not one's responsibility to transform this world, it does become problematic for many. Given the contemporary global crisis to which the subject-object relations embedded in the technological and scientific epistemologies have brought us, faith knowing calls for a deep conversion in the way humans, as subjects, relate to God's creation, as object. Given the subject-object relations of the kingdoms and principalities of this world whose operative mode is power and control, faith knowing calls for a deep conversion toward the Kingdom of God in which subject and object relations actualize modes of deep mutuality and interconnection, of love. Subject-object relations which accent separation and gainsay such relational modes, and thereby diminish the motivational impetus for engagement in transforming the world, are deeply problematic for faith knowing.

The first look through the window of subject-object relationship has presented a view of the traditional subject-object relations of Cartesian and positivistic epistemologies. With the second look through the window, several problems for the faith knowing of deep truth were disclosed. These

problems coalesce in a strong impetus for a third look through the window in search for an alternative understanding of the relationship between subject and object in the knowing act, specifically the faith knowing of deep truth.

In contrast to Cartesian and positivistic subject-object relations, Whiteheadian and Polanyian constructs offer for faith knowing a much more adequate view of the interrelationship between subject and object. Three primary highlights characterize the subject-object relations which form the pattern of the knowing of deep truth; the interrelationship between subject and object is relative, interpenetrating, and relational. In this third look through the window each needs to be viewed with close attention.

Subject and object as relative. Fundamentally, faith knowing of deep truth resides in the base unit of reality, an experience, or more specifically, in the experiential unit of the "coming-to-be-of faith." Since the base of reality and of knowing is the event of coming to be, the subject and object themselves are not primary, but secondary constructs. The very distinction between subject and object is a function of the primary event of experience-knowing. As derivative from the experience, subject and object are relative terms. As relative to the activity of coming to be, subject and object are terms which name what is more fundamental than they, that is, the experience itself.

This shift from viewing subject and object as the primary categories to viewing the experience as primary is a crucial epistemological shift. Fundamentally there is one common construct in knowing, the experience, from which two angles are derived, rather than two constructs, subject and object, which attempt to form one event. Two examples may illustrate this shift. Jerry Gill offers the image of an electromagnetic field as an epistemological image which discloses the relative and derivative nature of subject and object. An electromagnetic field "creates its positive and negative poles, rather than ... the poles themselves [existing] as self-contained entities which then enter into relationship"²² (emphasis added). The poles of the field are constituted by the interactive nature of the field. Another image of the derivative character of subject and object is a baseball game. The catcher, pitcher, hitter, and spectators are identities derived from the game itself. The game--the motions, patterns, and processes of relating--brings into existence the catcher, pitcher, hitters, and spectators. Thus it is with the identity of subject and object in the experience of knowing.

To identify subject and object as the primary categories of knowing is to enter into the fallacy of misplaced concreteness. As Whitehead shows, subject and object are abstractions from what is in reality concrete, the experience of coming-to-be.²³ Subject and object are two angles of

vision on the common experience-knowing, angles which were non-existent before the experience. Both are called forth by the experience. Further, each is called forth by the other, for in the concrete experience each requires the other. Failure to see this mutual dependence is a failure to see the concrete reality. Or it is to forget, in Owen Barfield's words, "that the concept of an object without a subject is as abstract as the concept of a surface without a depth and as futile as that of a back without a front."²⁴

In faith knowing of deep truth the primary epistemological constructs are not a subject, the human knower, and an object, God, or a belief, or the neighbor. The primary construct is an experience-knowing of the "coming-to-be-of-faith." From the activity of the "coming-to-be-of-faith" two angles are engendered, the angle of the faith subject and the angle of God (or the belief, or the neighbor). In the bedrock and micro-activity of the "coming-to-be-of-faith" neither the human, as subject, nor God, as object, are pre-existent, self-contained entities who relate across an insulating space. Rather, the field of the experience-knowing creates the interactional relationship which constitutes the two.²⁵

Subject and object as interpenetrating. The second highlight of the subject-object pattern of the knowing of deep truth is interpenetration. When the primary metaphysical reality is perceived as bits of matter, subject and object are

self contained and separate entities, connecting only accidentally. The space between them functions as insulating space, space which protects the boundaries encasing them. But when the primary metaphysical reality is perceived as forces and surging energies, as a field of experience-knowing, subject and object emerge from complex relationships of interaction and interdependence.²⁶ Space no longer functions as an insulator, but rather as a conductor.²⁷ In fact, the space between the subject and the object becomes the primary reality of experience-knowing. The knowing of deep truth reclaims this space between subject and object as the fundamental focus for the explication of how such knowing occurs. In focusing upon the space between, one discerns that the relationship between subject and object is not accidental but essential. Looking at the space between, one sees that the relationship is marked by the dependency of each upon the other. Subject and object exist by virtue of their relationship of interpenetration.²⁸

The interpenetration of subject and object can be extrapolated from the fundamental field of experience-knowing by looking at its two aspects. On the one hand, the relationship is discerned by exploring how the object is in the subject; on the other hand, the relationship is discerned by exploring how the subject is in the object. In the following explication of these two dimensions of subject-object interpenetration, Whiteheadian conceptuality will be

drawn upon for the former dimension, Polanyian conceptuality for the latter.

Whitehead's theory of prehensions provides a pivotal explication for the subject-object relations within faith knowing of deep truth. In the activity of concrescence, objects are prehended into the emerging occasion through the subjective aim. It is the prehensions, the positive prehensions of objects and the elimination of other objects, that come to form the subject. The subject itself then becomes constituted by a set of objects which are held together in a unified composite. The objects take up residence within the emerging subject. Further, the subject is not a pre-existent entity, but rather attains its satisfaction, or more specifically is created, through the process of unifying this set of objects.²⁹ Thus, the objects as the inner constituency of the subject are necessarily related to it. The subject cannot be comprehended apart from these objects, for indeed, the subject literally emerges from the experience-knowing of them.

This inherent sociality of the subject is fundamental in faith knowing of deep truth. In contrast to contemporary Western views of the self as autistic,³⁰ the subject must be seen as essentially and thoroughly a social self. Deep in the center of its reality, the subject is a communal being. In fact, in discerning the experience-knowing of deep truth the word "individual" needs to be eschewed. Instead of

individual, the subject--in line with the school of thought known in France as "la psychologie interdividuelle"--is "interdividual." Interdividual denotes one as being continuously formed in and by the incorporation of others into his/her being.³¹ As Carter Heyward has said, "our we-ness literally creates my I-ness."³² In the experience-knowing of deep truth the objects create the subject. For an interdividual what one knows becomes what one lives. Here is the heartbeat of interpenetration.

The interpenetration of subject and object within faith knowing of deep truth is actualized through this process of the object coming to be present within the very being of the subject. It is also actualized through the process of the knowing subject coming to be present in the known object. Technically, in Whiteheadian conceptuality, the subject is not in the object. Since contemporaries do notprehend each other, the object in the subject-object relation enters the relation from the past as a given. The object has already achieved satisfaction and therefore is not open to taking in the subject. On this micro-level of concrescence, mutual immanence of subject and object does not occur. However, on the macro-level the nexus of an object, B, can evidence the presence of a subject, A, within it. The subject occasions within the nexus of an object B prehend the object occasions within the nexus of a subject A. (Definitively, only a "subject" prehends another, so even the language of the "nexus

of the object" prehending another is problematic.) So although Whiteheadian conceptuality can be used to explicate the way the subject is in the object, the clarity and directness of Polanyian conceptuality is preferable for this dimension of the subject-object interpenetration.

The interpenetration of the subject in the object is more clearly explicated by Polanyi's construct of indwelling. The subject indwells the object in order to participate in the experience-knowing. The indwelling of the object's subsidiaries constitutes an act of interiorization by which the subject comes to experience the object's own integration of its subsidiaries. But the indwelling of the object by the subject must not be construed as an objective epistemological act. In the act of indwelling, the subject participates in the object and therefore becomes an integral part of the experience-knowing. Thus, what is known by virtue of the indwelling by the subject in the object implicates the subject as well as the object. The knowledge of the world which one attains by indwelling contains oneself; thus, we see ourselves in our knowledge.³³ Knowledge of an object by indwelling is always reflexive knowledge.

The presence of the knowing subject in a known object heralds experience-knowing as an act of "participating consciousness."³⁴ In the line of Owen Barfield, knowing is fundamentally analogous to the experience-knowing of a rainbow. The rainbow occupies a position in space; it is out

there. But would it be there if no one was present to know it? In actuality, the rainbow is an outcome of the participation of the sun, the raindrops, and the knower's vision. The rainbow is dependent upon all three ingredients. As Barfield says, "there is no such thing as an unseen rainbow."³⁵ Knowing is an interaction in which the knower participates with other ingredients to form knowledge. Far from being an onlooker, the subject's participation is required if any rainbow, or knowledge, is to emerge. Thus, the participation of the knower is constitutive of the known. Douglas Sloan frames the participating consciousness in this way:

Lest it be thought that this awareness of knowing as participatory has importance only for the world of sub-atomic physics, let it be remembered that there exists almost total agreement among psychologists and philosophers that our recognition of objects and events in the everyday world around us is shaped by our ideas as much as by our sensations. There is not pure perception (not, at least, in our ordinary experience). Our ideas, feelings, bodily states, and concepts all combine with our sensations of sight, touch, and hearing to produce the world of objects we recognize.³⁶ (emphasis added)

Participation of the subject in the object is necessary for knowing. Wilfred Cantwell Smith's paraphrase of Anselm's dictum, "I believe in order to understand," says it well: "I get involved in order to understand."³⁷ But even sharper, this epistemology claims, "we get involved in order to know."

The empiricism of scientific epistemology, with its incipient onlooker consciousness, fails to grasp this inherent

dynamic of knowing. Experience within this empirical model reduces knowing to the reception of sensations. The role of experience in constituting the objects perceived is missed. Realism's claim that the experienced object remains independently separate from the knowing subject overshadows the intrinsic participating consciousness of knowing. Yet, whether the perceiver of the rainbow is aware of his/her participation in its perception or not, that participation inheres in the very structure of its experience-knowing. "In encountering the world, we constitute it."³⁸

The indwelling which underlies the "participating consciousness" and through which the subject penetrates the object is a key to deep knowing. Polanyi's explication of the experience-knowing of a stereo-picture illustrates the linkage of depth and indwelling. Two images which are kept separate and external to the knower remain flat. Only their surface is presented to the subject. But when the subject interiorizes them, and through his/her participation integrates the two, the separate "objects vanish into a single image of depth in space."³⁹ Depth comes through the interiorizing experience. Through the subject's indwelling of the object's subsidiaries and the subsequent integrating action on the part of the subject, the knowledge is enriched and depth meaning is reaped. The knowing of deep truth depends upon what Susan Bordo calls "sympathetic thinking,"⁴⁰

the indwelling of the other and of the knowing which is occurring within the other.

The interpenetration of subject and object within experience-knowing is fundamental for faith knowing of deep truth. With the discernment that in faith knowing the subject is in the object and the object is in the subject, one begins to sense how faith for many people shapes everything they are and everything they experience. Challenging one of the oldest epistemological biases in Western thought, that "knowledge consists in taking a look,"⁴¹ faith knowing of deep truth posits that its knowledge consists of the mutual experience of entering into. The knowing of God requires the penetration of God into the very being of the knower. Further, the knowing of God requires the penetration of the subject into the being of God, the participatory indwelling of God. There is no onlooker vista by which one can come to know God. As the faith knower pours him/herself into the subsidiaries of God, be they the perspectives or the will or the actions of God, and integrates them, he/she experiences the knowing of God. The participatory consciousness of this latter act does implicate the faith knower in God as perceived. That is the nature of all interpenetration of the subject in the object. The depth which is reaped from this interpenetration of the faith knower and God is the depth of essence; for in the knowledge is mirrored the reality of God in the knower and the knower in God.

Subject and object as relational. A third highlight of the subject-object pattern of faith knowing of deep truth is its relational character. Although incipient within the other two highlights, this relationality needs explicit focus. Experience-knowing is essentially relational. Jerry Gill argues the point forcefully:

Our knowledge of one another is not something we arrive at on the basis of evidence, like lonely Robinson Crusoes. Rather, it is the very fabric within which we come to be knowers and to know things in the first place. Thus our knowledge of our world and of other persons is a result of the relational character of our experience in general. We exist in intersubjectivity as a bedrock reality, as a logical priority vis-a-vis the various other aspects and elements of our experience. Knowledge flows out of relationship.⁴²

Thus, in contrast to the Cartesian and positivistic epistemologies anchored in knowledge-as-separate-objects, this epistemology, in line with Whiteheadian and Polanyian paradigms, claims knowledge-as-intimate-relationship.⁴³

Knowing must be asserted as essentially relational because being itself is relational. The Cartesian subjectivism which posits that knowing begins inside the head of an individual knower is here countered with the contention that knowing begins in relationship. It is what happens between subject and object that forms not only the bedrock of the experience-knowing but also the very being of the consequent knower and known. The relation and not the self is the most basic unit of being.⁴⁴ A secure epistemological foundation must be anchored not in Descartes's "I think,

therefore I am," but rather in the axiomatic premise, "I am related, therefore I am."⁴⁵ In Whiteheadian conceptuality all being emerges from the activity of concrescence, the activity of growing together. Thus, reality itself is a flowing set of relationships. Knowing which is congruent with such reality is necessarily relational.

Both Whitehead and Polanyi explicate the nature of epistemological relationships to be internal. Whitehead's construct of internal relations and Polanyi's construct of indwelling yoke the relationships of knowing to interiority. Denying that knowing consists of externality, these two theorists insist upon relationships which affect the internal being of the participants. The relationship between subject and object changes the subject and the object. While the content of this internal change may be dependent upon the decisions and choices of the participants, whether to enter into internal relationship and thereby undergo change is not a matter of choice. All things necessarily cohere in each other and through these internal relations shape each other's being.

Given this essential relationality of subject and object, the knower and known must be discerned symbiotically. Each experiences itself in terms of the other. What is outside the one, comes in to reside within; what is inside that one goes out to reside in the other. As a description of the knowing process, this intersubjective reciprocity critiques as

partial, and therefore inadequate, the traditional formulations of subjectivism and objectivism. Far from being encased in autonomous and dualistic boundaries, subject and object are inseparable. Knowledge which results from the symbiotic relationship of subject and object is a knowledge born of union. In Richard Rorty's words, knowing is the "hermeneutical activity of making connections,"⁴⁶ of cultivating the intersections. Here the give-and-take across permeable self-world boundaries constitutes experience-knowing.

The relational highlight of the subject-object pattern embedded in faith knowing is a major frame for discerning depth. For on the surface, subject and objects seem to be separate, independent entities, whose relationships in space and time seem to be external to their enduring essence. However, upon deeper reflection that surface simplicity is discerned to be fallacious. For below the surface, at a deeper level, is a pattern of "deeply submerged kinship"⁴⁷ which is implicated in the manifest images of subject and object. Thus, in the act of looking beneath the surface to this relational ground, one connects with the depth of experience-knowing. The discernment of the constitutive nature of relationships in all being and knowing is a discernment of truth which resides in the depths.

The relational nature of the subject-object pattern poses a dynamic base for faith knowing of deep truth. Because

relationship is not accidental, nor incidental, but fundamental to faith knowing, love becomes an epistemological process. The faith knower comes to know in the act of reaching out in love to the other, be it God or neighbor or creation. In fact, the absence of love equates the absence of knowing.⁴⁸ Acts of love on God's part toward the human constitute God's knowledge of the human; acts of love on the human's part toward God constitute the human's knowledge of God. Further, in the relational epistemological matrix of love, the radical and mutual openness and receptivity of each to the other mark the depth of the knowing. In faith knowing of deep truth, intermingling not only has epistemic validity, it becomes the criterion by which truth is measured. For in faith knowing, love itself is the measure of truth. The truth of one's knowledge of God resides not in doctrinal correctness, but in one's depth experience of the internal relation with God and God's internal relation with the one. Thus, if one loves deeply enough, one will know truly.

In summary, the relationship of subject and object is fundamental in the process of faith knowing. The interrelationship of the faith knower, as subject, and the neighbor, belief, or God, as object, engenders deep knowing. In this process of faith knowing of deep truth, the subject and object are not the primary entities but rather derivative from the fundamental field of the experience knowing. Further, their relationship within that field of experience-knowing is

one of deep and mutual interpenetration. This is not a "subject-acting-on-object" structure; this is not an epistemological framework of God out there acting upon humans here, nor humans here acting on God out there.⁴⁹ Rather, faith knowing of deep truth displays the experiential occasion of the "coming-to-be-of-faith" which spawns a pattern of interlinking subject and object. The pattern of faith knowing of deep truth is a pattern of deep internal relationality between subject and object.

Being

The third window into the process of faith knowing of deep truth is the window of being. The intrinsic link of being with the process of knowing has been implicated in the explications of the views through the previous two windows. Since these views are views of the same process, the process of faith knowing of deep truth, overlap and similarity are viable and, even further, function as marks of coherency. However, because of the paramount nature of being within the process of faith knowing of deep truth its own window is called for.

Inseparability of knowing and being. For both Whitehead and Polanyi knowing forms one's being.⁵⁰ The subject not only knows via his/her relationships, the subject is his/her relationships. Jerry Gill frames this inseparable linkage of knowing and being in the image of a dancer and the dance. In the words of Yeats, how can one know the dancer from the

dance? On the one hand, one can say that the dancer knows the dance of "Swan Lake" well or not well, and thus one can separate the dancer from the dance. Yet, on the other hand, it is impossible to take the dance out of the dancer and still have a dancer. Their separation is impossible. "The dance is the dancer, yet it is also other than the dancer."⁵¹ Gill summarizes the nature of the relationship between the dancer and the dance, between being and knowing, as a relationship of "being inseparable without being equated."⁵² Knowing necessarily relates to being and being to knowing, yet the two are distinct metaphysical categories.

Through the constructs of internal relations and indwelling, one's relationships to the world do become built into the very make-up of the knower. Knowing functions to compose who one is. Since one cannot enter into internal relations nor indwelling without experiencing change, one's very self is implicated in one's knowing. The degree or the depth of the change varies given the variables of the experience-knowing, but the presence of change in the being of the knower is invariant. Change is the consequent of experience-knowing, which is the ground of the subject and object. Consequently, experience-knowing affects the self of both the knower and the known. The dancer of Swan Lake is never the same again after coming to know the dance; and Swan Lake as a dance is never the same again after being danced by the dancer. Novelty resides in the ground of reality, in the

process. Knowing which emerges from that ground of reality essentially participates in the novel. The novel then becomes ingredient in the very being of the subject and object.

This claim that knowing and being are inseparable engenders a realization that the knower is fundamentally creating him/herself through his/her knowing. The "I" becomes a construct of what one knows. What one chooses to indwell, or what one chooses toprehend, what one seeks to know constitutes what one becomes. In the self-world relationship of knowing, self is not pre-existent to knowing of the world, nor the world to the self, but rather, both come to be through the experience-knowing of each other.

In identifying the change of being which inheres in the knowing process, religious education theory has often posited the duality of formation and transformation.⁵³ Such duality is predicated upon the perception of different qualities of change engendered by knowing. When one emphasizes the continuity with what has gone before, change evidences a formational thrust. When one emphasizes the discontinuity with what has gone before, change evidences a transformational thrust. However, to push beneath such duality is to discern the fundamental and common experience-knowing which underlies both formation and transformation. On this primary level, the issue of whether a change of being and knowing is formational or transformational is mute. Energy expended to explicate the duality is discerned as questionable. The salient premise to

be promulgated is that all knowing engenders a change in being.

Truth as correlative to being. Coleridge once posited that the communion between being and knowing must be predicated upon the discernment that "Truth is the correlative of Being..., that both are identical and coinherent; that intelligence and being are reciprocally each other's substrate."⁵⁴ The claim that being and knowing are inseparable does implicate a fundamental linkage of being and truth. If truth is definitively that which bears relationship to reality, the Whiteheadian construct of concrescence functions as the linchpin holding together being and truth. In concrescence the coming to be of reality and the knowing of truth emerge simultaneously and reciprocally. Further, in faith knowing of deep truth, being and knowing are related because truth is also rooted in the being of God. The being of God is the substrate of reality; reality is the substrate of the being of God. Because of this reciprocal relationship of being and truth, being and knowing are coinherent.

Reflexive knowing. The internal relationship of knowing and being within faith knowing of deep truth evokes a need for the knower to be self aware of his/her presence within that which is known. The "I" of the knower is every bit a part of one's knowledge as is the object known. In its linkage with being, the knowing experience calls for the knower to become conscious of one's self implicated in the

other. The danger of a naive sense of separation between one's own self and the object known is poignantly told in the myth of Narcissus.⁵⁵ Narcissus fell in love with the person he saw in the pool when he looked in. Not realizing that the image was himself, he leaned toward the person looking at him. His inability to see himself in what he viewed as the other led to a good soaking. The inability to see ourselves in our knowledge of the other can lead to both inaccurate knowledge and disastrous consequences.

In the linkage of knowing and being, the self not only changes by virtue of the object, the self changes the object. Thus, a reflexive posture deepens the act of knowing. In a self-conscious knowing, what is known reflexively includes aspects of the self: the self as self, the self as object, the self as subject. Knowing does not just bring awareness of the being of the known object; it can bring awareness of one's own self when one self critically participates in it. Such a self-critical posture is called for in discerning the depth of truth which is embedded in the interlocked subject-object knowing experience. In fact, the knowing of truth is mitigated in the absence of such a self-critical posture, for truth implicates the being of both the subject and the object.

Reliance

The fourth window into faith knowing of deep truth is the window of reliance. The knowing of faith, and especially of its deep truth, is fundamentally a process of knowing it by

the very act of relying upon it. One knows it because one relies upon it. And without relying upon it there is no knowledge of it. The process of reliance inherent in faith knowing of deep truth is clarified through two angles: (1) the act of relying; and (2) the content upon which one relies.

The act of relying. Polanyi brings to our awareness the fundamental necessity of subsidiary indwelling for the knowledge of anything. For faith knowing, this act of relying upon constitutes a pivotal epistemological premise. The act of relying authenticates three qualities for the knowing of truth which forms the knower's being. One, the act of relying establishes the essential presuppositional foundation of knowing. Indwelling essentially functions to posit the construct of "prior" or "pre-" as the ground upon which knowing occurs. Knowledge is always experienced in the form of "on the basis of ... then" To know is to rely on A in order to know B. The act of relying in the knowing process posits unequivocally that knowing B requires a prior place to stand from which B can then be engaged. To understand necessitates the use of presuppositional tenets.

Two, the act of relying inserts the quality of active into knowing. Reliance is not a passive act. When I sit, I rely upon the chair. My act of reliance upon the chair is not a passive state. Rather, it is an active engagement of the chair. The quality of active in reliance is denoted by the act's incipient choice and its incipient activity. I choose

to rely on the chair. I do not have to rely on it. (Although I have to rely on something, what I rely upon is a matter of choice.) To rely on the chair requires my active involvement. I cannot passively wait for the chair to move beneath me. Similarly, the act of reliance in knowing denotes the active quality of all knowing.

Three, the act of reliance inserts the quality of tacit into knowing. What one relies upon in order to focus upon something else must necessarily remain submerged without explication in the act of reliance. To focus upon it and explicate it is no longer to be in the process of relying upon it. Thus, when one is relying upon an item of knowledge, it is necessarily tacit. In the act of reliance that which is relied upon is unspecifiable.⁵⁶ Further, this intrinsic tacit quality implicates the acriticalness of the ground of knowing. When knowing B, the place one stands is necessarily tacit and therefore, in that moment, acritically accepted. Given the tacit and presuppositional foundations of knowing it is necessary to believe, to acritically accept, in order to understand; or as Wittgenstein has posited: "Knowledge is in the end based on acknowledgement."⁵⁷

The act of relying, with its three qualities of presuppositional knowing, active knowing, and tacit and acritical knowing, shapes the process of faith knowing of deep truth. In expansion of how the construct of reliance functions within faith knowing two modes become visible. In one mode, reliance

functions by placing the knower within the subsidiaries of a mediator as that mediator orients toward God. In the second mode, reliance functions by placing the knower within the subsidiaries of God as God orients toward situations or persons or creation. As a way of knowing God each of the modes needs explication.

In the first mode, one comes to know God by indwelling the faith subsidiaries of another faith person as that person embodies his/her faith knowing of God. By indwelling the subsidiaries of this mediator (be it parent, teacher, neighbor, or Jesus), the seeker experiences the integrating acts of the mediator. As the seeker relies upon those subsidiaries in focusing upon God, he/she enters the experience-knowing of faith via the experience-knowing of the mediator. As Polanyi explicates, the tacit base of the mediator's own subsidiaries means that the mediator cannot specify how he/she knows God, but can only show it. Consequently, the only way to learn from the mediator is to indwell the mediator's subsidiaries as the mediator integrates those subsidiaries into the faith knowledge of God. Polanyi posits that this reliance upon the subsidiary integration of a mediator is initially how all novices enter into the knowing of a field or discipline. Only later can knowers depend upon their own integrations. Thus, to understand the role of reliance is to discern that knowing God fundamentally emerges through second-hand faith knowing. Further, not only

initially, but throughout life reliance upon another's subsidiary integrations remains a fundamental and viable way of knowing. Indwelling the faith subsidiaries of another is a faith knowing. Thus, one way of knowing God, no matter what the age of a person, is to rely upon the faith subsidiary integration of another.

Although this explication has used a person as illustrative of the mediator role, that role must not be construed as exclusive to persons. Many non-personal items function to provide the subsidiary base for reliance as one focuses upon God. One example might be the experience of worship. In worship, one relies upon the subsidiaries of banners, colors, music, etc. in one's focus upon God. The worshipper's knowing of God is a construct of the subsidiary indwelling of those mediators as they integrate into a perspective of God. One consequence of this reliance construct in faith knowing is that the subsidiaries must remain subsidiary. Given the mutual exclusive relationship of the subsidiary-focal structure, when one focuses upon the banners, or the flowers, or the music, then one loses the integration into the focus, that is, God. Reliance and its commensurate knowing is lost whenever one focuses upon subsidiaries rather than relying upon them.

A second mode by which the construct of reliance functions in the knowing of God is the mode of the knower indwelling the subsidiaries of God as God orients toward a

focus. In the construct of reliance, one comes to know what one indwells for the purpose of knowing something else. Thus, one way of knowing God is to focus upon the neighbor, or a practice, or a world situation, or oneself, through the subsidiaries of God. In the act of relying upon God's subsidiaries as God integrates the focus, one comes to know not only the focus as God knows the focus, but also God. Faith knowing of God thus becomes an act of relying upon God as one seeks to know another. Here the knowing of God emerges tacitly. Consequently, one does not need to be able to specify who God is to know God; indeed, when one relies upon God, one cannot specify who God is. The tacit structure heralds the possibility of knowing God by virtue of reliance upon God to the exclusion of explication of God. The posture of knowing God through "taking-God-for-granted" is here rendered as epistemically valid. Since all knowing is grounded upon taking something for granted, such faith knowing of God is no less dubious than any other knowing. In fact, since faith knowing of God requires the posture of believing, it is more closely aligned with the fundamental ground of all other knowing. We know God because we believe God and rely upon God.

In his comprehensive study of the historical shifts in the experience of believing, Wilfred Cantwell Smith explicates the change over the centuries in the relationship between pre-supposing and believing. Using the analogy of a situation of

a person seeking a parking place and coming upon a "No Parking" sign, Smith illumines the change. In one scenario the response of the person facing the "No Parking" sign could be: presupposing its validity, he/she begins to decide whether or not to obey it. However, in a second scenario the response of the person could be: taking-nothing-for-granted, he/she tries to decide if the sign is valid. After all, the sign could have been placed there not by the police, but by pranksters; or it may have been knocked over and replaced in the wrong place. Smith identifies the first scenario as descriptive of the common mode of believing in Biblical and medieval eras. The second scenario is descriptive of believing in the modern era.⁵⁸ Modernity denigrates the validity of presupposing within faith knowing.

This epistemology of faith knowing re-claims the role of pre-supposing for the knowing of faith. Far from deluding faith knowledge, presupposing is the genesis and ground of all valid faith knowledge. It is the act of presupposing, the act of relying upon, that thrusts one into the crucial faith experiences of trust, obedience, and engagement in the transformation of the world. Without this epistemological foundation, faith knowing becomes paralyzed in a perennial quest for explication and certainty. Not only is such a quest illogical, given the essential structure of the tacit base of all knowing, and specifically of faith knowing; it evades the act of reliance upon. And that evasion has serious

consequences for faith knowing. For it is through the act of presupposing that a faith knower knows the essential nature of God, that which is beyond the human grasp, that which cannot be explicated.

As a means of knowing God, reliance becomes a function of deep truth. In contrast to what is on the surface, what is deep within us, within our bodies, within our lives, within our relationships, functions as a base upon which we rely as we engage with outside entities. That which we rely upon becomes our dwelling. As home, it engages us at our deepest level of meaning. Deep truth most often functions tacitly, as that which we take for granted as we seek to know explicitly something else.⁵⁹ The belief, or understanding of God which functions as the dwelling for the faith person may have, at one time, been an explicit belief or understanding of God and may again be explicit. Or it may have never been explicated nor self-consciously analyzed. But at the time in which that belief or that concept of God functions as deep truth, it is most often tacit; it is home. And as that which resides so deep within us that it constitutes our very dwelling, faith knowing shapes our being.

The content upon which one relies. The process of reliance embedded within faith knowing of deep truth can be discerned through two angles, the act of reliance and the content upon which one relies. Three overlapping concepts name this content: tradition, authority, and world view. The

process of reliance within faith knowing is not understood without discerning how these areas of content become informative of that process.

The act of knowing begins with tradition, with what has gone before. Tradition as the genesis of knowing is affirmed by two assertions. One, the ground of knowing itself lies upon premises which must be acritically accepted. Two, every knower must begin his/her knowing of a field with a given framework. In light of these two assertions, then, one cannot escape the fact that knowing is inherently bound to tradition. One of the primary ways that tradition functions within knowing is as the content upon which the knower relies as he/she seeks to know an object of focus. Both Whitehead and Polanyi assert the primary role of that which is given. At the beginning of the knowing-experience is the inheritance; pervading the knowing-experience is the act of inheriting. In Whiteheadian conceptuality, tradition bears upon the concreting entity through physical prehension. In Polanyian conceptuality, tradition bears upon the knowing subject through the tacit subsidiaries of the "master." Tradition functions as a "presuppositional heritage"⁶⁰ upon which the knower stands as he/she seeks novel insights. There is no knowing outside of the reliance upon the inherited tradition.

Entangled with the concept of tradition is authority. The process of reliance necessarily gives rise to authority. What one acritically relies upon has authority for one. Thus,

there is no knowing without the presence of authority. What is crucial to note here is that the authority engendered by the process of reliance is an authority not of conclusion but of presuppositional heritage.⁶¹ Since in reliance authority resides in the tacit dimension of knowing, it does not function to present explicit doctrinal assertions; rather, it brings to experience-knowing the presuppositional context within which explicit knowledge can emerge. For both Whitehead and Polanyi the dual pulses of limitation and freedom shape the knowing act. Each knower is limited by what has gone before, by that which is given; each knower must extract his/her knowledge via the authority of that given. Yet, each knower experiences freedom in the impetus to move beyond that authority in the creative advance. However, the creative and novel insight never emerges outside of authority, but always upon it and through it.

The content of what one relies upon can also be named as the world view within which one's knowing emerges. The presuppositional knowledge upon which one relies as one focuses upon something else functions not to give neutral footing; rather, it functions heuristically. Pre-suppositions are not only the point of departure for all experience-knowing; they pervade and deeply affect the whole experience.⁶² As the context within which the knower comes to know, this world-view surrounds the experience-knowing and forms the tent which colors all that is known. In its dwelling are found the

epistemological tools of language and metaphors and values and traditions, all of which are subsidiarily relied upon and integrated into the subject's knowledge. The heuristic function of the knower's world view is predicated upon this axiom: what the knower subsidiarily relies upon is integrated into his/her knowledge. Thus, one's world view heuristically becomes embedded in one's knowledge.

In faith knowing of deep truth, the necessity of traditional doctrines and church practices is crucial in providing content for the act of reliance. By virtue of the subsidiary role of tradition, authority, and world view in the knowing of faith, deep truth is construed as deep within the community or faith culture. It is the faith community which provides the inherited tradition, the authority, and the world view necessary for subsidiary reliance as one comes to know faith. Through indwelling the community's tradition and world view, the faith knower develops the heuristic vision which engenders the experience of his/her own individual faith as home. Two primary community actions which function in such context-building are worship and mission actions. In acts of worship and mission the community embodies its tradition and world view in such vivid accents that participants are compellingly drawn into the subsidiary base. Dwelling in the subsidiaries of community worship and mission actions, participants come to know the community's integration of the reality of God. The deep truth resonant in what is home

depends upon a community's embodiment of tradition, authority, and world view in such acts as worship and mission.⁶³

The epistemological construct of reliance, in both its angles, the process by which it occurs and the content which it implicates, is a pivotal construct of the knowing of faith as trust. To rely is to trust. Thus, built into the very nature of knowing is trust. For faith knowing, reliance upon expresses the very bridge which connects the human with God, and the human with neighbor. Relying upon the subsidiaries of another person in the knowing of God, or relying upon the subsidiaries of God in the knowing of another person, intimately links self, neighbor, and God. As trusting in becomes equated with knowing, knowing becomes equated with intimate relationship. Thus, the knowing of God is not a matter of external doctrinal propositions, nor ability to explicate who God is. The knowing of God is the trusting of God.

Categories of Knowledge

This epistemological model for faith knowing of deep truth is inclusive of several categories of knowledge. Traditional and contemporary schemas have categorized knowledge in various ways. Platonic epistemology divides knowledge into two major categories, external forms and objects. Cartesian epistemology identifies the primary categories to be percept and concept. In his religious epistemology, Thomas Groome draws upon the Aristotelian

categories of *theoria*, *poiesis*, and *praxis*.⁶⁴ Paul Bumbar broadens Groome's Aristotelian categories to: *theoria* (theoretical), *poiesis* (poietic), *praxein* (practical), and *noein* (noetic).⁶⁵ This model of faith knowing posits four forms of knowledge. These forms of knowledge are not to be discerned as autonomous within the experience-knowing of faith. However, they are distinct and function within the model to engender variances in knowing mediums. The four categories are perceptual knowledge, conceptual knowledge, non-sensuous knowledge, and action-knowledge. The following exploration will explicate each one and then focus upon their interrelationship within the faith knowing of deep truth.

Perceptual Knowledge and Conceptual Knowledge

Perceptual knowledge is the knowledge of sensations. Through its knowing medium of the sense organs, perceptual knowledge engenders the knowledge of matter. In David Bohm's words, this is the knowledge of the "manifest world." Indicative of its etymological root in the Latin manus, meaning "hand," manifest implicates that which can be held with the hand, that which is solid, tangible and visible.⁶⁶ Whitehead identifies this category as the observational order of knowing.⁶⁷

Whitehead posits the companion of the observational order to be the conceptual order.⁶⁸ Conceptual knowledge is the knowledge of ideas. Through its knowing medium of the mind, conceptual knowledge is culled through reflective and

analytical thinking. Concepts are ideas which are conceived.⁶⁹ They are conceived through the knower's activity of theorizing upon his/her experience or perceptions of other ideas. Conceptual knowledge is dependent upon knowing through the use of reason.

Non-Sensuous Knowledge

Both Whitehead and Polanyi implicate the crucial role of a third form of knowledge, non-sensuous knowledge. Polanyi's bedrock assertion, "we know more than we can tell," and Whitehead's fundamental structure of prehensions call for a type of knowledge which is neither perception nor conception. Non-sensuous knowledge is knowledge which emerges not from sense organs nor from the mind. Rather, it is prehended (or apprehended) through the wholeness of experience. While sense perception does bestow knowledge through experience, experience cannot be restricted to just what is encountered through the senses. Experience is much deeper and more comprehensive than what can be apprehended by the senses or explicated through reasoned reflection. Experience as a whole is the fundamental medium of non-sensuous knowledge.

How does non-sensuous perception occur? In Whitehead's conceptuality non-sensuous perception emerges through the mode of causal efficacy.⁷⁰ Fundamentally, non-sensuous perception arises from the activity below the level of the senses, the activity of physical prehending. As causal efficacious knowledge, non-sensuous knowledge is body knowledge, body

knowledge in the broadest sense of the concept. The role of the body in causal efficacy is not primarily found in the senses, but rather in the experience a bodied person has. As Whitehead says, "the living organ of experience is the living body as a whole"⁷¹ (emphasis added). Not just with its senses, but as a whole, the body actualizes through prehension its universe. Thus, in each microsecond of experience the prehensive activity brings into the body a breadth of knowledge, only a very sliver of which is sensorially perceived or cognitively explicated.

In Polanyi's conceptuality, non-sensuous perception is not as straight-forward as in Whitehead's paradigm. The construct of the subsidiary and tacit base of all perception offers some illumination on non-sensuous perception but it cannot be equated with it. Not all subsidiary knowledge is non-sensuous. However, non-sensuous knowledge is primarily subsidiary knowledge, or at least, emerges through subsidiary knowing. In Polanyi's conceptuality, non-sensuous knowledge is illuminated both through bodied knowledge, knowledge which is known in one's muscles, bones, and fingers, and through intuitive knowledge, knowledge which is rooted in the intuitive sense of what is indicated in a certain set of circumstances. Here non-sensuous knowledge is the knowledge of the connoisseur whose knowledge cannot be specified nor restricted to surface senses. Rather, such knowledge which emerges from one's experience energizes intuition as a knowing

mode. The non-sensuous knowledge of bodied and intuitive knowing is rooted in indwelling. How does one know that a cat is feeling sad? One knows by moving beneath the sensory knowledge of the cat staring out the window to the level of dwelling in those subsidiary clues and making the intuitive leap which integrates those clues into the knowledge of "I am sad." Much of the indwelling construct is indicative of such non-sensuous perception.

Action-knowledge

The fourth category of knowledge is action-knowledge. Akin to the Aristotelian categories of poiesis and praxein, action-knowledge is a type of knowledge which emerges from the bodily action of the knower. However, in distinction from its cousins, poiesis and praxein, action-knowledge posits a knowledge which is more comprehensive than "know-how."⁷² The knowledge which is rooted in the bodily structure of action is inclusive of the practical knowing of both poiesis and praxein, but embraces a wider field of engagement with the knower's environment and situational context. Action-knowledge denotes the knowledge which results from the knower's decisive action upon the world. More than percept, concept, and non-sensuous perception, for knowers can perceive and conceive without engaging in any action upon the world, action-knowledge is intimately linked with the will. What the knower wills and enacts engenders an intense form of knowledge. Herein the knower knows by his/her action.

Two fundamental qualities characterize action-knowledge. First, action-knowledge denotes a type of knowledge which one does not know prior to one's action, indeed, a type of knowledge one will not know unless one enters into action. This knowledge comes only through the action itself. Thus, in the wisdom of Pascal, if one is having difficulty knowing or believing God, one should try behaving as if one does--going to worship, kneeling, etc., and see if one does not find that knowledge.⁷³ The actions embody knowledge. Consequently, as one takes on the actions which embody the knowledge of God, one will come to the knowledge of God. Polanyi's axiomatic assertion is here claimed as the base of religious action-knowledge: we know God by serving God.⁷⁴

Whitehead's premise that being is constituted by becoming underscores this category of knowing. Since the ontological base of life is in the becoming, so the epistemological base of life is also in the act of becoming. And becoming is fundamentally linked to engaging in an action of that which one wants to become. One knows love by becoming loving. One did not know love before one prehended the data of love, or before one entered into the act of becoming loving. Knowing and becoming occur simultaneously; knowing love and becoming loving are simultaneous acts. Thus, if one waits until one knows love to become loving, one will never know love. Further, since being is constituted by becoming, the way to

be loving is to engage in becoming loving. And one of the strongest ways to become loving is to engage in loving action.

In its root structure of being circumscribed by embodiment, action-knowledge functions as the type of knowledge which is gained through the process of imitation. As the knower imitates the actions of another, the knower comes to know that one's knowledge, for the knowledge is resident in the action itself. To discern the knowledge resident in the action is to discern the knowledge of body. The body knows somethings the mind has not yet articulated, nor understood, or because of subsidiary indwelling, cannot articulate. Thus, such action knowledge is communicated best, and sometimes only from body to body, via the imitation of the bodied knowledge of another. Knowledge gained through mimesis of action is not dependent upon explication. But, whether explicated or not, mimesis engenders pivotal knowledge.

Second, the quality of intent fundamentally marks action-knowledge. The action which underlies this category of knowledge exercises the intent of the knower. In contrast to action which is commensurate with all knowing, the action of this type of knowledge is that action which is intentional and often focused. Since the will of the knower is implicated in such action, the consequent knowledge is often accompanied by a degree of risk, of being on the line in the knowing act. This type of knowledge extends along a continuum of engaged risk-taking, from the action-knowledge of craftsmanship on the

one end, to the action-knowledge of urban plunging on the other.⁷⁵ The will in such action-knowledge functions to so engage the knower in the action that the concomitant knowledge is not informational knowledge, which could have been received through a passive transfer act, but existential knowledge, which is gained only through active involvement of the knower's whole being.

Interrelationship of the Four Categories

The faith knowledge of deep truth arises from an interplay of these four categories of knowledge. All four are ingredient in the knowledge which constitutes faith. But their presence within the faith knowledge of deep truth is not as self enclosed categories of knowledge, but rather as dialectically formed knowledge resulting from the interaction with each other. This interrelationship of the four categories within the experience-knowing of faith is explored in the following discussion in two dimensions: its dialectical nature and its foundational rootage.

The faith knowledge of deep truth is a product of the dialectic between perceptual, conceptual, non-sensuous, and action knowledge. One's percepts shape what one knows through the mind, the intuition, and the will. One's concepts shape what one knows through the senses, as well as through experience and imitative action. One's non-sensuous prehensions are informed by past sensory and conceptual knowledge as well as the conscious will. One's action

knowledge is conditioned by what one perceives and conceives. In this dialectic which gives rise to faith knowledge, each category becomes entangled in the other so that even though theoretically distinct, the categories are experientially inseparable.

Illustrative of this dialectical relationship is the knowledge of God. One cannot perceive God unless one can conceive of God.⁷⁶ What one perceives when one looks at a burning bush which is not being burnt, or at a man hanging on a cross, or at Mother Teresa bending over an emaciated body, depends upon one's conceptions of God. Yet, at the same time, one cannot conceive of God unless one can perceive God. The voice in the burning bush, the Incarnation, the embodied love of Mother Teresa, give perceptions of God which then shape the concepts one develops about God. Further, neither perceptions nor conceptions of God arise outside of non-sensuous knowledge of God. Since God, as the One who exists beyond all human constructs, cannot be reduced to them, neither can the knowledge of such a One be reduced to the specifiable and explicit categories of perceptions and conceptions. The experiential and intuitive influence of the non-sensuous knowledge of God filters what one perceives and conceives when one faces God in the burning bush. And this perceptual, conceptual, and non-sensuous knowledge of God, gained at the burning bush, at the cross, or from Mother Teresa, is decisively shaped by one's act of obedience to that incipient

call of God. Faith knowledge of God is constituted by the dialectical interplay of all four types of knowledge.

The dialectical nature of these four categories of knowledge arises from the nature of knowing as intra-experiential. Given the blurry boundaries of experience, knowledge emerging from it displays intertwined qualities. Thus, any attempt to separate one category from another, in some claim to pure perceptual or conceptual forms, denigrates the role of experience in knowing. The tendency in many educational processes to focus upon concepts and transmit them outside of experience masks the reality that concepts are inescapably entangled with percepts, non-sensuous, and action knowledge. Since concepts owe their genesis to experience and the dialectical relationship to the other types of knowledge which are inherent in experience, their knowing divorced from experience, or at least, without recognition of the experience, is dubious. The dialectical nature of the categories of knowledge is enhanced whenever the fullness of experience is drawn upon.

A second dimension of the interrelationship of these four categories of knowledge is its foundation in perceptual and non-sensuous knowledge. Foundational to all knowledge, and faith knowledge is no exception, is percept. All concepts are grounded upon more primitive percepts. Although in individual existential experience, percepts are shaped by concepts, they are logically prior to all conceptualization. In faith

knowing of deep truth, percepts of God, neighbor, self, and the world ground one's knowledge in the concrete, in the actual occasion.⁷⁷ Such knowledge cultivates the depths of faith reality.

A second foundation of faith knowing of deep truth is non-sensuous knowledge.⁷⁸ Giving substance to what underlies sensory data, faith knowing links one with knowledge of that which is intangible. While it subserves and pervades the tangible, the intangible cannot be equated with the tangible. Knowledge of the intangible requires a non-sensuous means of knowing. Thus, non-sensuous knowledge is fundamental for the knowing of God, the knowing of values, the knowing of relationships. Non-sensuous knowing undergirds the process of intuitive integration by which such faith knowing is engaged.

Non-sensuous knowledge is fundamental for faith knowing; it is also fundamental for the knowing of deep truth. While perceptual and conceptual knowledge express both surface and depth knowledge in varying degrees, non-sensuous knowledge essentially conveys knowledge of what is below and beyond the surface. Culled from the heartbeat of experience and the knower's intuitive integration, non-sensuous knowledge carries with it the existential potency which forges knowing and being. Thus, for both these reasons, its linkage with the intangible and its crystallization of depth knowledge, non-

sensuous knowledge is the fertile epistemological ground of faith knowing of deep truth.⁷⁹

Characteristics of the Paradigm

This epistemological paradigm for faith knowing of deep truth is constituted by its process of knowing and by its categories of knowledge. The process of faith knowing of deep truth is enclosed within experience, an experience which spawns the interpenetration of subject and object and thereby forms the very being of each. Further, the process emerges within an experience of reliance, an experience which engenders trust as the bridge which links subject and object in the knowing act. The patterns of this process fashion and employ four types of knowledge: perceptual, conceptual, non-sensuous, and action. In faith knowing of deep truth the primacy of perceptual and non-sensuous knowledge is indicative of knowledge which both evokes and resides at the depth of one's being. Predicated upon this process of knowing and its concomitant categories of knowledge, the explication of this paradigm now addresses its fundamental characteristics. The model is characterized by seven accents, accents which decisively color the fabric of the model.

Embodiment

The faith knowing of deep truth is a bodied knowing. The accent on embodiment indicates the very heart of what it means to know, and more specifically, what it means to know faith from the depths of one's being. This crucial role of

embodiment within faith knowing of deep truth is expressed in three postulates.

Body as the medium of knowing. One postulate is that all knowing is bodied knowing. Knowing is rooted in experience and human experience is rooted in embodied existence. As Jerry Gill says, "embodied existence is our way or mode of 'being-in-the-world.' Being a body defines the nature and structure of our experience."⁸⁰ In contrast to the assertion of Cartesian dualism which speaks of persons as essentially mental, of persons as "being minds and having bodies,"⁸¹ this model asserts that persons are essentially bodied persons. All knowing, and faith knowing is no exception, comes in relation to and in terms of one's embodiment.

The body, in its role as the "axis" of human experience,⁸² functions in a dual capacity. On the one side, it functions as a mediator between the world and mind of the knower. In this role the body exists in an inescapable linkage with the mind, so that all knowing is consequent of a "mind-suffused body."⁸³ This rootage of knowledge in the role of the body is reminiscent of the linguistic history of the very words used to speak of knowing. Words which now indicate mental processes, such as grasp, conceive, and understand, in earlier times signified material processes.⁸⁴ The original bodied meaning of knowing words reminds us that fundamentally all knowledge comes through somatic sources. From the role of brain cells to the physical location of the

knower to the conditioning of perceptions, sensations and emotions, knowing is a body mediated act.

On the one side, the dual capacity of the body in knowing is activated in its role of mediation. On the other side, the body is not a mediator but rather engenders its own knowledge. Polanyi's teaching that the body, its muscles, skeletal structure, cells, etc., itself contains knowledge is echoed by both Jean Piaget, who finds sensio-motor knowledge to be foundational, and psycho-analytic theory, which finds the body to embrace knowledge not yet known with the mind. Thus, we know not only through our bodies, but in our bodies. Body activity is a form of cognition.⁸⁵

Body as the link to deep truth. A second postulate which underscores the centrality of embodiment within faith knowing of deep truth is that the body fundamentally links experience-knowing with deep knowledge. W. B. Yeats captures this postulate:

God guard me from those thoughts men think
In the mind alone;
He that sings a lasting song
Thinks in a marrow bone.⁸⁶

The marrow bone centers one in the core of being. In addition to being indicative of personal "groundedness,"⁸⁷ the body actualizes personal connectedness. Through the body is evoked a depth experience of being grounded and being connected to the world and to others. Persons who experience depression are often counseled to walk, not so much for exercise,

although that certainly contributes to the body's knowledge of healing, but more deeply, for the re-connection with the earth and its inhabitants. From the depth intimacy of sexual union with another to the depth communion with the world, the body functions as a medium for depth connection and encounter. Disembodied ideas, disembodied theory, disembodied educational processes remain on the surface of analysis, in contrast to full bodied experience which penetrates the depth of being.

In faith knowing of deep truth, the bifurcation of spirit and matter is denied. Depth faith is found not in seeking a spiritual world outside of the material, but rather in pushing deeper into the material world itself. What is spiritual is bodied; what is bodied is spiritual. The depth of the Incarnation serves to call all faith knowers to seek God in what is bodied. The depth of the mystery of God's presence is not found in disincarnate spirit, but in the mysterious reality of embodied life. As the mystery of embodied life is discerned, so its depths reveal the Holy.

Body as the source of touch. The crucial role of embodiment within faith knowing of deep truth is predicated upon a third postulate. This model claims that faith knowing of deep truth has more to do with touch than it has to do with sight. Much of experience-knowing through the body draws upon the perception of sense organs. But not all of the sense organs equally involve a bodied knower in experience-knowing. In a continuum from low engagement to high engagement of an

embodied knower, the senses can be lined up: sight - smell - taste - hear - touch.⁸⁸ Pondering this continuum one understands why the epistemological role of the body is viewed differently in print and oral cultures.

In highly literate and print-oriented societies, experiences of knowing de-emphasize the role of the body. When sight is the primary epistemological medium, knowing is constituted by distance between subject and object, by static and passive relationships, by abstract and analytical thought.⁸⁹ In their analysis of the traditional Western hierarchy of the senses, Evelyn Fox Keller and Christine Grontkowski explicate this dissociative function of vision.

[T]he visual metaphor ironically allows for the dissociation of the mental from the sensory. Vision is that sense which places the world at greatest remove; it is also that sense which is uniquely capable of functioning outside of time. It lends itself to a static conception of "eternal truths." Although itself one of the senses, by virtue of its apparent incorporeality, it is that sense which most readily promotes the illusion of disengagement and objectification.⁹⁰

Vision is one sense which is capable of functioning with minimal engagement. One can see an object without being affected by it and without it being affected by the viewer.⁹¹ Cartesian and positivistic models of knowing depend upon vision and its proclivity toward distance and objectivity. G. N. Vesey summarizes the qualities which make visual knowing-experiences fit so closely with these models.

We can imagine a disembodied mind having visual experiences but not tactile ones. Sight does not require our being part of the material world in the

way in which feeling by touching does.... The directness of seeing when contrasted with hearing, its non-involvement with the object when contrasted with feeling by touching, and its apparent temporal immediacy when contrasted with both feeling and hearing are features that may partly explain the belief that sight is the most excellent of the senses.⁹²

In contrast to print and vision-oriented cultures, oral cultures emphasize the body as a primary vehicle of knowledge. When hearing and touch are the primary epistemological mediums knowing is constituted by closeness and intimacy between subject and object, by responsive and interactive relationships, by tactile and kinesthetic activity. The full engagement of one's embodiment within experience-knowing shifts knowing from an act of seeing to an act of hearing, but most specifically, to the act of touching.

Faith knowing of deep truth calls upon touch as a primary way of knowing for several reasons. One, touch is the operative mode of relationship. In contrast to sight, which reinforces distance, touch, and also hearing, function to establish closeness, to relate one to another. While the knowing of God cannot be dependent upon literal touch, it is consequent to metaphoric touch as the faith person touches God by touching neighbor and world. One who remains distant from neighbor and world will never know God. As touch functions to link the depths of one with the depths of another, to reach beyond the dimensions visible on the surface, it functions to

engender depth knowledge of God. Touch has a primary role in all knowing of love.

Two, touch is the taproot of a knower's ability to feel. Whether in literal or metaphoric touch, feeling is predicated upon touch. The ability to know compassion, to feel with another, to be deeply present with another, is nurtured by literal and metaphoric touch. Beyond any words, beneath any visible expressions, it is the touch which renders knowledge in compassionate presence. But in addition to compassion, touch engenders other feelings, feelings of joy, support, pain, affirmation, rejection and desire. Faith knowing of deep truth has more to do with feelings than with ideas.⁹³ Thus, it is essentially linked with touch.

Third, touch is the medium of action knowing. In contrast to sight, as well as to hearing, touch is the hands-on sensory medium which attends the full bodied engagement in an action. The depth knowing of God and neighbor which accrues from pounding nails on the Habitat house, or reading to a blind resident of the nursing home, or dishing out food at the homeless shelter, cannot be gained by reading an article in Christian Century nor listening to a sermon. The hands-on touch in a faith action engenders knowledge of God and neighbor which is often both inarticulable and life-shaping. It is a faith knowledge which links the depths of the knower with the depths of God.

Faith knowing of deep truth is fundamentally characterized by an accent upon embodiment. Far from being eschewed, the body inserts into faith knowledge a depth and vitality which needs to be cultivated by all faith educational processes. God, who created knowers as minded bodies and who has taken up residence in just such a body, is to be known most deeply through bodied knowledge.

Concreteness

Within faith knowing of deep truth, a slight shift of focus moves one from embodiment to concreteness. In contrast to some epistemologies' emphases upon the abstract, upon principles, theories, ideas, and generalizations, this epistemology emphasizes the concrete, the specific occasions of reality. The Whiteheadian premise that value inheres in each momentary entity, each pulse of existence, calls into question all educational elevation of abstractions. As Whitehead so aptly notes, "[i]n the Garden of Eden Adam saw the animals before he named them: in the traditional system, children named the animals before they saw them."⁹⁴ Foundational to all knowing is the concrete; primary attention in all teaching and learning must be given to the concrete.

The faith knowing of deep truth is linked with the apprehension and appreciation of the concrete. Given the nature of abstractions as derivative and partial, the concrete is the locus of reality. It is in the concrete that reality takes up a full bodiedness that functions to engage the full

bodiedness of the knower. As focus upon abstractions distances one from the ground of reality, focus upon the concrete yokes one to the depths of what is. There is no substitute in the knowing of deep truth for the knowledge and the appreciation of the concrete. As Whitehead says:

What is wanted is an appreciation of the infinite variety of vivid values achieved by an organism in its proper environment. When you understand all about the sun and all about the atmosphere and all about the rotation of the earth, you may still miss the radiance of the sunset. There is no substitute for the direct perception of the concrete achievement of a thing in its actuality. We want concrete fact with a high light thrown on what is relevant to its preciousness.⁹⁵

The Whiteheadian yoking of value to the concrete is mirrored in faith knowing by the yoking of divine instances with human instances, a yoking actualized in creation, in the Incarnation, and in the community of faith. In the knowing of deep truth, to focus upon abstract, spiritual principles to the neglect of the concrete, is to miss the presence of God, for God resides precisely in such concrete actuality. The knowing of abstract, spiritual principles must be grounded upon and continually linked with the knowing of the "concrete instantiations" of the Holy presence.⁹⁶

The potency of the concrete for knowing is attributed to its directness and immediacy. Whitehead's assertion that the directness and immediacy of concreteness is primordially found not in tangible objects, but in experience, has special saliency for faith knowing. In faith knowing tangible objects

have little import. But that does not leave faith knowing without the concrete. Experience presents concrete knowing in all of its full bodied immediacy and directness. As concrete, experience directly and immediately engages the knower's attention, perception, feelings, thoughts, desires, and will. Hereby, concrete experience operates as a formative knowing, a knowing which, in contrast to non-direct and non-immediate abstractions, actively engages the knower. Theories can be ignored; abstract generalizations can be vicariously entertained. But concrete experience demands a response. As the concrete experience elicits from the knower a relational response, the very being of the knower is internally affected. Thus, commensurate with first-hand knowledge is depth. Reminiscent of Whitehead's warning that second-hand knowledge harbingers mediocrity,⁹⁷ this assertion weds deep knowing to the concrete. Faith knowing of deep truth is grounded upon direct and immediate concrete experience.

This accent upon concreteness within the faith knowing of deep truth implicates five intertwined definitive qualities of knowledge: faith knowledge of deep truth is particular, perspectival, constructed, hermeneutical, and communal. These five qualities engender a faith knowledge which is deeply personal. Although interwoven within the fabric of faith knowing and its primacy of the concrete, the five qualities bring distinctive nuances to the "coming-to-be-of-faith."

Concrete as particular knowledge. Both Whitehead and Polanyi assess knowing to be utterly particular. Whitehead's philosophy of organism posits meaning to be resident in a particular occasion. Being particular is the essence of being. The constitutive nature of particularity for an occasion implicates the essential role of an occasion's location in a historical and social situation. One occupies a certain place in a body and in a concrete world,⁹⁸ a place which becomes constitutive of what one knows. Polanyi's philosophy of subsidiary-focal structure also attributes knowledge to particularity. The integration which comprises one's knowledge is commensurate to the particular subsidiaries one indwells. For both Whitehead and Polanyi being situated ascribes an epistemological quality. As knowers are embedded within a context, their knowing via tacit, as well as prehensive knowing, constitutively incorporates the particularities of that context.⁹⁹ Given one's nature as an embedded knower, one's knowledge is essentially shaped by one's "here-ness." Deep truth is indicative of one's unique social and historical place; deep truth is inherently particular.

Concrete as perspectival knowledge. A second definitive quality of knowledge implicated by the accent upon concreteness is perspectival. Faith knowledge of deep truth is a construct of the knower's perspective. As Raimundo Panikkar observes, there is no possibility of a 360 degree

view; at best, one can only have a 180 degree view.¹⁰⁰ Since all knowing, including faith knowing, is grounded upon the concrete experience, with its subsidiary and prehensive integration of objects in its context, the Cartesian search for a-perspectival knowledge is delusionary. The impossibility of neutral, standpointless knowledge makes futile the reach for knowledge outside of perspective.¹⁰¹ One cannot view an other or God from nowhere in particular nor from no form of embodiment in particular. And one's standpoint, or perspective, shapes what is known. In his critique of Kant, Nietzsche posits perspective as inevitable in all knowing:

"Pure reason," "Absolute spirituality," "knowledge in itself": these always demand that we should think of an eye that is completely unthinkable, an eye turned in no particular direction, in which the active and interpreting forces, through which alone seeing becomes seeing something, are supposed to be lacking; these always demand of the eye an absurdity and a nonsense. There is only a perspective seeing, only a perspective "knowing."¹⁰²

Since to know anything requires the internal appropriation of what is in one's context, perspective does essentially inhere in all knowledge.

To discern faith knowledge in its particularity and perspectiveness is to understand the importance of context in the knowing of God and faith content. In the search to know God, the educational tendency to center upon generalizing and universalizing abstractions, upon out-of-context learning, functions to inhibit depth knowledge of God. The attempt to

remove context, an attempt which fuels universal models, concepts, and language, counters the move into the depths of being where knowledge of God functions to transform life patterns and values. Stripping the particular from discourse in education, worship, and relationships, leaves anonymous discourse, ritual, and being. Such impersonal neutralities cannot foster the knowing of deep truth. Deep knowing of God and faith content arises from the concrete particularity of the knower. Thus, education and worship within the faith community, instead of appropriating general and universal discourse and concepts, need to embrace and employ a plurality of particularities and perspectives of God and faith content. Difference signifies an epistemological ideal for faith knowing of deep truth.

Concrete as constructed knowledge. The accent upon the concrete within faith knowing of deep truth implicates a third quality. The faith knowledge of deep truth is constructed. The nature of deep faith knowledge as constructive is not an indication of its being invented by the knower; rather it is an indication of its being constitutively participated in by the knower. In the tension between descriptive and constructive, faith knowledge of deep truth portrays a decisive leaning toward constructive. Wilfred Cantwell Smith cautions that whenever we handle our knowledge, it is often difficult to discern the presuppositions we call upon. He continues: "[i]ndeed, one does not easily recognize that in

thinking ... one is doing anything, in active construction, rather than, passively merely seeing things in their self-evident state."¹⁰³ To discern knowing as a function of prehensive and subsidiary concrete experience is to unmask the illusion of just seeing things in their self-evident state. Knowledge is not a pre-existent entity which is fixed and therefore congruent with descriptive processes. Rather, deep knowledge arises from the interpenetration of subject and object, and therefore is consequent to the active engagement of the knower. As partly the construct of the knower, deep truth is essentially a product of constructive activity.

As in all deep knowledge, deep faith knowledge enhances this constructive nature of knowledge. What is deeply known arises from an intense interpenetration of subject and object. Thus, deep truth of God is contingent upon the interface between God and the faith knower, and upon what each contributes in the interactive experience-knowing. Much of the potency of deep truth to affect the being of the knower is due to this constructive involvement of the knower at the point of this intersection. Knowledge which is passively received engenders passive and non-affected knowers. Knowledge which incorporates the contribution of the knower nurtures active and affected knowers, knowers whose very being is on the line in that knowledge, knowers who find themselves accountable for and implicated in what they know. To be deeply moved by one's knowledge of God is to find oneself in

that knowledge. Thus, far from being eschewed and bemoaned in the knowing of faith, constructive knowledge needs to be embraced and cultivated.

Concrete as hermeneutical knowledge. A fourth definitive quality of deep faith knowledge is its hermeneutical nature. Knowledge which is rooted in the particular, which is perspectival and constructive, must always be interpretive and interpreted. Knowers never have pure, unmediated experience, but always experience an object or situation "in light of." Thus, what one knows is a construct of one's interpretation of that object or situation. The hermeneutical function of knowledge is predicated upon the knower's act of subsidiary indwelling. "In light of" this or that subsidiary, knowledge becomes this or that. Knowledge is always interpretive. Further, since knowledge is essentially interpretive, the knowledge of other knowers can never be presented in educational processes as "if it [could] be removed from those who construct and use it;"¹⁰⁴ it must always be contextually interpreted. Differently constituted and situated knowers engender varying knowledge. The hermeneutical nature of knowledge portrays the necessary role of mediation in all knowing. It is not that knowledge exists outside the knower and the knower sees it through a lens of interpretation. No, knowledge itself is not pre-existent, but rather is a consequence of the interpretive activity of the knower. Interpretation inheres in the nature of knowledge.

Thus, it is not literalism, but interpretation which is the model and mode of knowing.

Concrete as communal knowledge. The accent upon the concrete implicates faith knowledge of deep truth to be fundamentally communal. While emphasis upon the concrete in its full particularity might seem to underscore privatistic knowledge, the emphasis does in fact undercut such knowledge. To de-emphasize abstractions and universals in favor of the concrete and particular is to discern plurality as fundamental to each occasion of being and knowing. Further, not only is the knowledge embedded in each concrete particularity essentially social, given its constitutive dependence upon others, but it is also essentially partial. The partiality of knowledge intrinsic to particular perspectives vivifies the role of community in the generation of knowledge. As Nietzsche said: "... the more affects we allow to speak about one thing, the more eyes, different eyes, we can use to observe one thing, the more complete will our 'concept' of this thing, our 'objectivity' be."¹⁰⁵ Rather than sacralizing the ideal of an individual knower who knows all viewpoints, the emphasis upon the concrete honors the limitations of the particularity of knowers as illuminative of the specific and partial reality of objects themselves.¹⁰⁶ The limitations of particularity nullify the prominence of the lone knower and elevate the interconnective knowing power of the community.

The deep truth of faith knowing is inherently particular and social. Thus its knowing heralds a posture and practice of "particularity-in-mutuality." Community as a context of "particularity-in-mutuality" fosters the deepening of faith knowing. The deepening dynamic operative in community as "particularity-in-mutuality" is what Douglas Sloan names the "tension of polarities." Using the analogy of metaphor, Sloan posits that it is the tension of polarities which functions to ground us into the deeper structures of reality. He observes:

Both Ricoeur and Barfield have spoken of metaphor as the holding in tension with one another of two incompatible meanings that together reveal a deeper unity of meaning which joins them. In metaphor it is essential that the incompatibles, or polarities, not be overcome one by the other, nor that they be swallowed up and dissolved in sameness, but that they be maintained together in all their strength. And in that tension between them the imagination grasps a larger meaning and deeper connection than appears in either separately.¹⁰⁷

The tensions of particularity are revelatory of a deeper structure. For Whitehead that deeper structure is creativity; for Polanyi it is the tacit triad. But specifically in faith knowing, that which underlies, pervades, and transcends all particularity is God. Thus, deep knowing of God emerges in a community not through homogeneity, where all entities disclose generic life, but rather in the full-bodiness of particularity-in-mutuality, where the very tension of differences discloses the underlying unity of God of which each particular is a part. Deep knowing of God is nurtured

in and by a community where the deep and rich relations of particularity-in-mutuality are visibly present.

Passion

A third accent in faith knowing of deep truth is the accent of passion. To know deeply is to know with one's passion. Two themes constitute the accent of passion within this epistemological model: generic passion and specific passions.

Passion as generic. To discern the role of passion in faith knowing of deep truth is to discern the primordial role of passion in all knowing. Whitehead's explication of the basis of all concrescence to be emotional and Polanyi's concept of Intellectual Passion as the ground of all noetic achievement offer the rubrics for the claim that without passion there is no faith knowing. To the traditional dualistic premise that emotion and reason constitute oppositional tension, faith knowing proffers the premise that emotion underlies all knowing, knowing by reason, knowing by intuition, knowing by perception, and knowing by action. Passion fuels the subject-object relation which engenders knowledge. Emotions of respect-disrespect, devotion/hostility, reverence/non-reverence, joy/grief, desire/rejection, determine the orientation of the subject to the object, or in Whiteheadian language, constitute the subjective form with which the subject welcomes or rejects the object. Such emotions comprise the essence of the knowing

interaction. Emotions which form the substratum of faith knowing are, in the words of James Fowler, a "deep-going, pervasive, and long-lasting set of fundamental dispositions of the heart," dispositions which determine the values, the purposes, and the ends for which human intelligence and energy will be mobilized.¹⁰⁸ In faith knowing of deep truth it is not one's passions which serve one's reason. No, in faith knowing, it is one's reason and intuition and other forms of knowing that serve one's "habits of the heart," one's passions.

Passion as specific. In addition to generic passion, a second theme within the accent upon passions is specific passions. This theme culls from all passions those specific passions which function to link, to link the faith knower with neighbor, with creation, and with God. Such passions as compassion, trust, love, gratitude, adoration, enjoyment, loyalty, and reverence forge connections between self and world, between self and God. As linking passions their efficacy for faith knowing calls for focused attention.

In contrast to emotions of disjunction, emotions such as anger, jealousy, indifference, fear, and hostility, linking emotions function to open one to an other. They make fertile the being of the knower for the depth influence of the other. Deep knowing of faith depends upon being moved by the neighbor, by creation, by God. Emotions of compassion, reverence, and joy are emotions which both arise from and give

rise to the capacity to be profoundly moved. Further, the experience of being moved is commensurate with knowing. Subsidiary indwelling and positive internal relations are commensurately intensified by deep linking emotions. What one is moved by is what one knows most deeply. Or more specifically, through being moved, one comes to know most deeply. The binding ethos of the linking passions accords them a primary role in faith knowing of deep truth. We know God by our covenant with God, by our passions which preserve the interpenetration of God and us. It is not that we know and then love what we know. Rather, it is that we know God, neighbor, and world, in and by loving God, neighbor, and world. Passion and knowing are simultaneously bound. Love, compassion, trust, reverence, and all linking passions, are organs of cognition for faith knowing of deep truth.

Intention

The interwoven fabric of faith knowing of deep truth is marked by a fourth prominent accent, the accent on intent or purpose. The impoverishment of the epistemological role of the will in scientific materialism, and its concomitant knowing theory of behaviorism, is here countered by the refueling of the knowing act with the power of intentionality. In faith knowing one's intention becomes integrally intertwined with how and what one knows.

The underlying pattern disclosing the role of the will in knowing is explicated by both Whitehead and Polanyi. The

subjective aim inserts into every occasion of the "coming-to-be-of-faith" the essential shaping role of purpose. Embedded in the concreting occasion, knowledge thus bears the imprint of aim. In parallel constructs, Polanyi discerns the substratum of the from-to movement to actualize in every knowing act the formative presence of intention. For both theorists, experience has a vectorial pattern. Its vectorial nature, far from being mechanical, highlights the activity of the will in all experience-knowing. While scientific and behavioristic epistemologies promulgate efficient causes in the place of Aristotelian final causes, Whitehead and Polanyi assert the vectorial nature of being and knowing to be consonant with equating true knowledge of objects with final causes, with purpose.¹⁰⁹ This reinstatement of Aristotelian final causes provides a crucial epistemological axiom. Knowing and willing, cognition and conation, are inseparable. Or as Rollo May has said:

Cognition, or knowing, and conation, or willing, then go together. We could not have one without the other.... If I do not will something, I could never know it; and if I do not know something, I would never have any content for my willing.¹¹⁰

The inherent role of intentionality or the will in the faith knowing of deep truth is illumined by discerning its functioning within two constructs. First, it must be made explicit that it is the will which animates the construct of attention. An intention functions to turn one's attention toward something. Attention is not to be construed as passive

glancing. To give one's attention to something is to be engaged in its perception. Thus, knowing anchored in attention is fundamentally directed by intentionality.¹¹¹ Faith knowing fundamentally depends upon a knower's deep attention to God, and to concomitant practices of prayer, worship, stewardship, etc. Such attention cannot be evoked outside of engaging the knower's will. The attention operative within deep knowing is always yoked with the knower's will.

While the construct of attention is crucial for faith knowing, in the faith knowing of deep truth the incorporation of the will is even more deeply discerned within the construct of commitment. In profound ways, one's knowing is dependent upon one's commitment, one's "readiness to take a stand."¹¹² Although Polanyi explicates the integral role of commitment in all knowing, the construct of commitment is even more formative for the faith knowing of deep truth. And it is the will which fuels commitment. Analogous to the Gestalt perceptual images of the face-vase, or the up-down stairway, faith knowing engages one in perceiving within ambiguous contexts. Whether one sees a face or a vase, a stairway going up or going down, is a matter of decision; one decides to see the face or the stairway going up. Whether one perceives God in creation, Mother Teresa, or Buddha is a matter of decision. As Polanyi explicates, all knowing is anchored in the commitment to the perception of this or that. As we intend,

as we "stretch toward,"¹¹³ we know and what we know becomes implicated with our intention. Faith knowing, as does all knowing, requires the will. In order to know God one must intend to perceive God. Coming to know God, coming to know God's will for such issues as sexual practices or abortion or use of economic resources, requires the readiness to stretch toward, to take a stand. Where there is no readiness to commit, where there is no intention, there is no deep knowing.

Personal

The accents of embodiment, concreteness, passion, and intention within the fabric of faith knowing of deep truth complement the accent upon the personal. Indeed, their accents are constitutively intermingled within the concept of personal. Given its nature as expressive of embodied and concrete particularity and as derivative of passionate and intentional engagement, deep faith knowledge is intrinsically personal.

In faith knowing of deep truth, the quality of being personal must not be equated with the state of being individual. Personal denotes the quality of being aligned with person and persons. Definitively, personal mirrors both individual and social identity. The antithesis of personal is not social, but impersonal. As personal, faith knowing of deep truth has to do with what it means to be person.

The knower as person. In deep faith knowing the quality of personal denotes a two sided coin. On the one side,

personal asserts the knower to be person with all of the accompanying qualities of embodiment, particularity, passion, and will. To the degree that a knower becomes a passive receptacle, rather than an active and responsive person in the knowing act, the knowing of deep faith is truncated. Polanyi's concept of knowing as the making of integrative leaps over gaps forms a pivotal caveat against the discernment of knowers as, in Paulo Freire's terms, banks which receive deposits. While a guide can lead a knower to the gap between subsidiaries and focal, no one can make the integrative leap but the knower, him/herself.¹¹⁴ To know requires the knower to take responsibility, to bring all his/her embodied, particular, and passionate being to the gap, and to commit to the leap. In the face of the ambiguity and uncertainty of the gap, knowers cannot abdicate their inherent nature as persons who must responsibly act upon their perspective, passion, and will. God is not known by those who abdicate the leap. God is only known by knowers who accept and live out their nature as responsive persons.

The known as person. Personal denotes the knower to be person in the full depth of what that means. But on the other side of the coin, personal also asserts the nature of the object, or what is known, to be person. In faith knowing, truth is most deeply known in and through the relationship of persons. The subject-object relationship which engenders deep knowing is not a person-proposition relationship, but rather,

a person-person relationship. Consequently, as Raimundo Panikkar observes, most spiritual traditions stress the need of a Master and not a book.¹¹⁵ Deep knowledge is a construct, not of propositional affirmations, but of personal relationship. Indeed, given subsidiary indwelling, much of what is known deeply is unspecifiable and cannot be formulated as propositions. To keep the knowing experience at the level of propositions, or to reduce the knowing of a person to the knowing of propositions, is to mitigate the knowing of deep truth. Knowledge that is impersonal, which arises from personal-proposition relationship, fails to engage the depths of the knower and the known.

To know God as person is not so much an anthropomorphic experience as it is an experience of discerning the being of God as that which can never be encapsulated in descriptive propositions. The experience of knowing God as person, as being, is an experience of shared subjectivity. It is not to know ten descriptive propositions, but to come to see how the other, how God, sees, to come to share God's subjectivity. For Christians, this axiomatic dismantling of propositional knowing of God and elevation of the knowing of God through shared subjectivity is vivified through the Incarnation. The knowing of God as person, as subject, is mediated by the knowing of Jesus as person, as subject. The subject-object pattern of shared subjectivity which engenders deep truth is a person-person relationship. In the knowing of shared

subjectivity truth is not a "what," but a "who." Truth is a person.¹¹⁶ The knowing of such truth occurs through the indwelling or sharing in that person as also a subject. Descriptive and propositional language may be indicative of the knowledge of "truth as person" which is gleaned through shared subjectivity, but such language can never be equated with it, for a subject can never be reduced to descriptive propositions. Rather, the deep knowing of God arises from the unformalizable experience of sharing the subjectivity of God, of coming to see the world as God sees it.

Wholeness

Discernment into faith knowing of deep truth remains elusive unless one perceives its fundamental nature of wholeness. The accent on wholeness is striking when viewing the fabric of deep faith knowing. Given the interlocking networks of knowers and known objects, the interlinkage of God, self, neighbor, and world, and the interdependence of past, present, and future realities, faith knowing of deep truth is anchored in wholeness. In fact, the English words "health" and "holy" come from the Anglo Saxon word hale, which means "whole."¹¹⁷ The root of the knowing of the holy is the knowing of the whole; holy knowing is inextricably linked with whole knowing.

One of the most problematic legacies of Cartesian epistemology for faith knowing of deep truth is its emphasis upon discrete parts. Whole never becomes whole when it is

constituted by a sum of parts, any of which could then have separate and autonomous existence. Descartes's mechanistic metaphysics ushers in privatistic epistemology. The knower and the known exist as separate and autonomous parts, facing each other across a chasm. Knowing invites the crossing of the chasm but never the elimination of the chasm. The retention of the chasm in knowing protects the knower and the known from internally affecting the other. In Cartesian thought the essential separation of the faith knower and God is buttressed; the faith knowing of deep truth is concomitantly impaired.

Whiteheadian and Polanyian conceptuality proffers the primordial and essential wholeness which counters the Cartesian fundamental accent upon parts. While the Cartesian whole functions as an organization of primary parts and is derivative from them, the Whiteheadian whole functions as an organism which is primary to, and always more than, its parts. When the organic whole is discerned as primary, Whitehead asserts, parts take their character from the whole. Thus, for example, "an electron within a living body is different from an electron outside it, by reason of the plan of the body."¹¹⁸ This accent upon the whole means that no part is exclusively self determined; each part is shaped by the whole which sustains it.

This accent upon wholeness within faith knowing of deep truth can be discerned through two lenses. One is the lens

of the subject and object, the faith knower and God, neighbor, or world. A second is the lens of the experience of knowing.

Wholeness of the subject and object. Wholeness pervades faith knowing through the wholeness of the knower and of the known. Faith knowing implicates a whole knower, a knower who is a feeling, thinking, sensing, willing, and acting being. The intermingled efforts of the heart, hand, and mind of a knower become constitutive of the deep knowing of God and neighbor. Truth which inheres in the very being of the knower is truth which is known by the very being of that one, a being which is fundamentally whole.¹¹⁹ To know God only through the mind, or only through the emotions, or only through the senses, is to fail to engage one's own depths in one's knowing.

In addition to implicating the wholeness of the faith knower, deep faith knowing implicates the wholeness of what is known, the wholeness of God, neighbor, and world. Deep knowledge is linked with knowledge of wholeness. Exclusive focus upon parts restricts one to surface and abstract reality, while focus upon wholeness links one with what is of the depths, with what is primary and real. Consequently, when faith knowers exclusively focus upon God as Savior, or upon God as Creator, or upon God as Judge, they miss the wholeness of God. Depth knowledge of God becomes elusive. The depth reality of God, neighbor, and world cannot be known through parts analysis.

The reductionistic tendency to equate God with a part of God's being mitigates deep faith knowing. It mitigates deep faith knowing because the idolatry of such knowledge keeps it from giving an accurate understanding of God. Part knowledge is never accurate. But it also mitigates deep faith knowing because of the correlative relationship between the depths of the knower and the depths of the known. There is a correlation between the wholeness of the faith knower and the wholeness of what he/she knows, such that one evokes the other. To know wholeness in an other requires the wholeness of the knower. To know the wholeness of oneself requires the wholeness of the other. Thus, to focus exclusively upon one part of God evokes only part of the knower in the knowing process. But, to focus upon the wholeness of God engages the wholeness of the faith knower. The depth of the one calls forth the depth of the other. Deep calls to deep. Wholeness calls to wholeness.

To call for an emphasis upon the wholeness of God, neighbor, and world within faith knowing is not to claim that a faith knower can know the wholeness of any known object, and especially God. Rather, the emphasis upon wholeness functions to punctuate faith knowing with humility and transcendence. Humility inheres in every faith knowing experience which is anchored in wholeness, for awareness of wholeness makes what is known of God always partial and provisional. Transcendence inheres in every faith knowing experience which is anchored

in wholeness, for awareness of wholeness makes the knower ever reaching for what is beyond what is presently known. Wholeness functions as a orientational frame by which faith knowing is protected from idolatry and by which it dwells in mystery.¹²⁰

Wholeness of the knowing experience. The accent upon wholeness within faith knowing of deep truth is also discerned through the lens of the experience of knowing. To discern that beneath each discrete part is a whole which pervades and sustains it is to discern that the experience of knowing is, in David Bohm's words, an experience of "unfolding."¹²¹ Bohm's insight into the nature of the world is illuminative for the experience of faith knowing. Bohm names the wholeness which underlies all discrete entities of the world the "Undivided Wholeness in Flowing Movement." This "undivided wholeness" cannot be discerned explicitly, but only known implicitly, as it is "indicated by the explicitly definable forms and shapes" of the world around us.¹²² Further, the undivided wholeness which underlies objects and events is "contained, in some implicit sense, in each region of space and time."¹²³ The word "implicit" is based on the verb "to implicate" and means "to fold inward" as in multiplication, which expresses the event of "folding many times." Thus, Bohm observes, analogous to a radio wave in which a verbal or visual image is "enfolded" and carried within it, each object and event in some sense contains the whole "enfolded" within it.¹²⁴ As the radio or

TV receiver then explicates or "unfolds" the image, so discrete object and events explicate this implicate order.

The accent upon wholeness as the primary ground of being and knowing nurtures "an experience of the whole in every part."¹²⁵ Knowing the whole becomes an experience of unfolding the particular as it carries the whole within it. Knowing the particular becomes an experience of discerning its inherent mediation of and shaping by the whole. This "all in every part quality of life"¹²⁶ decisively discredits the Cartesian premise that knowing warrants, indeed requires, a dissection of a whole into smaller parts. Rather, knowing is an experience of discerning in each particularity the prior and undergirding wholeness.

Discerning faith knowing of deep truth through this lens of the wholeness which underlies and pervades the experience of knowing resonates with a discernment of God as that wholeness of being which underlies and sustains all being. When God is discerned as, in Tillich's words, the "Ground of Being," the knowing of God is contingent upon "unfolding" particular instances of being and making explicit the implicate presence of God. This knowing process does not call for a pantheistic concept of God. Rather, similar to Whitehead's conception, God's inner presence within actual occasions never eclipses the transcendence of God to those occasions. As implicate within each particularity, God's wholeness is only indicated by particularities, never equated

with them. But, for the faith knower, it is the implicate presence of God which provides the avenue for the knowing of God. And the experience of knowing God is one of "unfolding" such particularity to discern the presence of God.

Meaning

The fabric of faith knowing of deep truth is decisively colored by a seventh accent, the accent upon meaning. Deep faith knowing is tantamount to the knowing of meaning. Thus, any epistemology which offers insight into how God, neighbor, or world is known by a faith knower must disclose how meaning is known. From within Whiteheadian and Polanyian conceptuality meaning is discerned as concomitant to experience. Specifically, in faith knowing of deep truth, meaning is engendered by three interdependent experiences: the experience of qualitative reality, the experience of relatedness, and the experience of self contribution.

Meaning in qualitative reality. Meaning is engendered by the experience of qualitative reality. Meaning itself denotes a discernment of value, of significance, of importance. These are qualitative judgments which cannot be reduced to nor equated with quantitative judgments such as size, weight, and number. Cartesian and scientific epistemology becomes problematic for faith knowing in just this tension between knowledge of qualitative and quantitative reality. The way traditional and popular epistemologies treat qualities has been primarily shaped by two theorists:

Descartes and Kant. Predicated upon Descartes's dividing line between mind and body, scientific positivism rigorously eliminates all qualities from the category of knowable reality.¹²⁷ Predicated upon Kant's critique, most popular thought now find qualities to inhere only in the mind. Qualities, from their residence in the mind, are then projected onto reality, rather than received from it.¹²⁸ Thus, given Cartesian and Kantian presuppositional frames, qualities are not only unmeasurable, and therefore unknowable, they are psyche phenomena, and therefore unreal. But the problem for faith knowing is this: as knowing is restricted to quantities, it leaves the human knower without knowing as a process for meaning-making. Any meaning humans experience in its linkage with qualities must emerge outside of their knowing. Indeed, faith itself, as intrinsically involved with meaning, becomes eliminated from the knowing experience.

In a provocative book which he entitles The Abolition of Man, C. S. Lewis records a section from a textbook which illustrates this separation of knowing and meaning. Using the names Gaius and Titius to allude to the authors of this text, Lewis writes:

In their second chapter Gaius and Titus quote the well-known story of Coleridge at the waterfall. You remember that there were two tourists present; that one called it 'sublime' and the other 'pretty': and that Coleridge mentally endorsed the first judgment and rejected the second with disgust. Gaius and Titius comment as follows: 'When the man said That is sublime, he appeared to be making a remark about the waterfall.... Actually ... he was not making a remark about the waterfall, but a remark about his

own feelings. What he was saying was really I have feelings associated in my mind with the word "Sublime," or shortly, I have sublime feelings. ... [The authors] add: 'This confusion is continually present in language as we use it. We appear to be saying something very important about something: and actually we are only saying something about our own feelings.'¹²⁹

Lewis then proceeds to demonstrate how the denial of reality to qualities leads to a dissipation of human values and ultimately to the abolition of humankind. The issue at stake here is the objective reality of qualities. As Lewis notes:

Until quite modern times all teachers and even all men believed the universe to be such that certain emotional reactions on our part could be either congruous or incongruous to it--believed, in fact, that objects did not merely receive, but could merit, our approval or disapproval, our reverence, or our contempt. The reason why Coleridge agreed with the tourist who called the cataract sublime and disagreed with the one who called it pretty was of course that he believed inanimate nature to be such that certain responses could be more 'just' or ... 'appropriate' to it than others.... The man who called the cataract sublime was not intending simply to describe his own emotions about it; he was also claiming that the object was one which merited those emotions.¹³⁰

In a dis-qualified universe, a universe where only the measurable portrays knowable reality, and where the reality of qualities and values and purposes and all that goes with being personal is dubious,¹³¹ meaning evaporates.

To dis-qualify the universe, to remove the reality of qualities and thereby eliminate meaning, is to ultimately destroy human life. The knowing of meaning resides within a structure of kinship between knowers and that which they know. Thus, the reality of qualities in known objects implicates the

reality of qualities within human knowers themselves. Lewis's analysis here of the deep linkage between the denial of the objective reality of qualities, the loss of meaning, and ultimately the abolition of humankind makes clear that in the intertwining of knowing and being how qualities are treated has far reaching ramifications. In the structure of kinship between knowers and known objects, the discernment of the objective validity of qualities in the known is mutually linked with the discernment of the objective validity of qualities in human knowers. The denial of the reality of qualities in the known is reflexively experienced in the trivialization of qualities in human knowers. Thus, the reinstatement of the objective reality of qualities is of ultimate importance.

The structure of kinship between knowers and the known illumines the nature of qualities to be both objective and subjective. Qualities are objective. They are objective for they are not just projected onto known objects; they do inhere in known objects. In Whiteheadian conceptuality, actual occasions are constitutive of both quantity and quality. Thus, in the prehension of a past occasion, the knower receives qualities that are given him/her in that object. Qualities are also subjective. They are subjective as they constitutively require and draw upon inner human powers of perception. As William James once noted, "[t]he inmost nature of ... reality is congenial to powers which you possess."¹³²

In Whiteheadian conceptuality such perceptual powers weave back into reality and shape it. Qualities then become, in part, as do quantities, subjectively constituted. In this dual nature of being both objective and subjective, qualities bear deep meaning.

Qualities are central to deep faith knowing. What one can measure has little to do with knowing God, neighbor, and world as a faith person. Rather, it is such qualities as love, purpose, harmony, beauty, goodness, value, and justice through which one comes to know deep faith. The meaning incipient within faith is dependent upon the knowing of such qualities. Do such qualities have objective reality? Does meaning have any objectivity? Faith knowing asserts that such qualities objectively inhere in God, in the neighbor, in the world, and in the self. Further, they can be known by virtue of the kinship between God (or the neighbor, or creation) and the faith knower, a kinship in which the qualities of one reciprocally engage the qualities of the other. The qualities of love, purpose, harmony, beauty, etc., in the knower enable him/her to perceive these qualities in the other. Such qualities, which are really in the knower, and therefore subjective, are activated as through them the knower comes to know such qualities which are really in the other, and therefore objective. Meaning, anchored in the qualitative nature of God, neighbor, and self, is both objective and subjective. And because it is both objective and subjective,

because it is neither exclusively of the other, nor exclusively of the self, but is indicative of the connection between them, it can be known.¹³³

Meaning in relatedness. In faith knowing of deep truth a second mode by which meaning is engendered is the experience of relatedness. Meaning arises from a sense of being related to God, to others, and to the world. The Cartesian separation of self and world inherently counters the experience of meaning, for meaning is evoked through knowing oneself to be connected to what is outside and beyond oneself. In Whiteheadian thought, "importance comes from a feeling of the connectedness of an object, experience, or idea with a larger -- ultimately a cosmic -- whole."¹³⁴ In contrast to experience of oneself as fundamentally separated from and outside everything else in the universe,¹³⁵ including God, the experience of meaning resides in knowing oneself to be internally related in both surface and deep ways to all else. In this connective tissue of relationship what one is and does constitutively matters to others beyond oneself, to the universe, and to God. And what an other, including God, is and does constitutively matters to one's own self. Given, what Murray Bookchin calls, the equality of unequals,¹³⁶ all, from the President of the U.S. to the smallest butterfly, from the lowliest human to the God of the universe, have a significant part in the other. To be so related is to know significance, to know meaning.

Anchored in the experience of relatedness, meaning denotes a sense of home. While alienation attends knowing characterized by separation and distance, the sense of having a place attends knowing characterized by deep relatedness. The Whiteheadian axiom of "the many become one and are increased by one" laces each occasion of reality with meaning. As the world finds a home in each one, meaning accrues; as each one finds a home within the world of other occasions, meaning accrues. This is not an alien universe. Alongside and with all others, one has a place in the universe; alongside and with all others, one has a place in God. To know meaning is to know oneself at home in that universe, to know oneself at home in God.

Meaning in self contribution. The third experience by which meaning is known within faith knowing of deep truth is the experience of conscious self contribution. Meaning is engendered by the knowing of oneself as participating in the creation of what is. Knowledge shaped by the knower is knowledge endowed with purposes given it by the knower. As the knower incorporates his/her own purposes within what is known, the knowledge becomes energized with meaning. To know meaning is to bring to the knowing experience one's own needs, intent, and desires and to engage the other through them. Thus, meaning, as does knowledge, becomes consequent to particularity. It is constructed out of specific subject-object relationships. In reflecting upon the educational

implications of Whitehead's assertion that knowers discover their own meanings and unique viewpoints, Donald Oliver and Kathleen Gershman observe:

[A] perspective which sees education as something teachers give, like a treasure box from the attic, ... overlooks the fact that in learning every student packs his [sic] own box....

When we lose the sense that we are creating our own moment--either spatially, by attending large brick and concrete schools, or in communication, by assuming that all meaning is in dictionaries, libraries, and tapes and does not have to be constructed by us--when we lose this sense of deep participation in our own becoming, we must surely lose the desire to be educated at all.¹³⁷

Meaning cannot be imposed. Meaning cannot be passively received. To know meaning one must risk self participation in what is known. One must contribute of one's self in the knowing experience so that the resultant knowledge bears the imprint of one's being. Only through such self contribution can knowledge engender a sense of fulfillment, a knowing of meaning.

The Knowing of Mystery

Since the primary entity to be known in faith knowing is God, the faith knower is always faced with the necessary element of mystery in his/her knowing. Whatever else might be said of God, essentially God is beyond all that might be explicated about Her. To know God is to be integrally drawn into mystery. Is it possible to know mystery? Or are the two concepts, knowledge and mystery, essentially antithetical, so that the intentional juxtaposition of them betrays a cognitive

travesty? Can one only be epistemologically cogent by categorically differentiating knowing and believing, restricting the use of knowing to that which is non-mysterious in relationship to God and faith content and the use of believing to that which is mysterious?

This study posits that it is epistemologically viable to speak of knowing mystery. The viable linkage of knowledge and mystery, however, depends upon a shift from traditional tenets of knowing to tenets which are more congruent with the nature of reality and more revelatory of how one does know mystery. While the following explication of these shifts is given within the rubrics of the knowing of mystery, the premises themselves are rooted in how all knowing occurs. Faith knowing is not qualitatively different from all knowing. While the presence of mystery may be intensified in the faith knowing of deep truth, its presence is never absent from any knowing. Thus, to speak of the knowing of mystery is to draw upon the same fundamental epistemological tenets of all knowing.

First, to know mystery is to realize that knowing is not essentially about gaining certitude but about embracing ambiguity. Given the creative advance of all reality, God, the world, and one's self are essentially indeterminate. The "many becoming one and being increased by one" does not denote duplication but novelty. Thus, all knowledge of God mirrors the contingency of the present moment and context and

intrinsically points beyond itself to other moments and contexts. In contrast to Cartesian epistemological precision, knowing of an essentially indeterminate reality has more to do with a knowing mediated by vagueness and ambiguity than a knowing mediated by exactitude. Only the surface and abstract qualities of God and the universe can be claimed to be known with lack of vagueness. For at the depths of God and the universe indeterminacy inheres. Faith knowing of deep truth draws upon ambiguity as a fundamental medium for knowing the mystery of such indeterminacy.

The saliency of ambiguity within the knowing of mystery undergirds the role of doubt in such knowing. Doubt itself, far from indicating non-knowing, becomes inherent in knowing that which is essentially indeterminate. When one is knowing that which is essentially indeterminate, knowledge cannot be equated with certainty, but rather with the dialectical conversation between affirmation and doubt. The dialectical conversation between "Yes" and "But" is the matrix of the knowing of mystery. In its crucial role as part of this dialectic which gives rise to knowledge of mystery, doubt has epistemological stature. It is just such a dialectic with doubt as a conversation partner that not only keeps one's present knowledge to be the knowledge of mystery, but continually calls one's knowing into that which is beyond it. Doubt does not allow the knower to settle for what is, but keeps the knower of the edge where mystery is found. To know

mystery is to discern in ambiguity and doubt not only epistemological ultimacy, but also the mediation of deep faith knowing.

Second, to know mystery is to realize that knowing is fundamentally anchored not in that which can be explicated, but in that which is essentially unspecifiable. The deep knowing of mystery is grounded upon the insight that explanation and justification mediums for establishing truth necessarily come to an end in that which subserves them, their inherent unspecifiable roots.¹³⁸ But knowing does not come to an end with their cessation. Knowing continues by means of those unspecifiable roots. Here is the knowing of mystery. Thus, mystery itself is not about being unknown, but about being unexplainable. And given tacit knowing, what is unexplainable is not unknowable. To know mystery is to resist the reductionistic tendency to equate knowledge with, what the English have called, "nothing buttery": the human is nothing but a "bundle of reflex behavior"; nature is nothing but a "complex computer";¹³⁹ God is nothing but a predictable superhuman. Knowledge as "no more than" and "nothing but" that which can be explicated is knowledge only of surface reality. Knowledge of the depths, known by tacit knowing, is knowledge which cannot be specified, knowledge of mystery. As previously noted, God, as mystery, is most deeply known through the tacit knowing pattern of reliance. Not by explication, but by indwelling of what is essentially

unspecifiable, is mystery known. Thus, the essence of faith knowing of deep truth is the assertion, "I know, but I do not know how I know."

Third, to know mystery is to realize that knowing is not about control but about surrender. The desire to control breeds a distinctive epistemology, as evidenced in Cartesian and positivist paradigms.¹⁴⁰ In contrast to such epistemologies, the knowing of mystery draws upon the discernment that only surface knowing can be gained when one's purpose is to control. God and the indeterminate universe are definitively beyond the knower's control. A knowing which functions to bring about control can never facilitate and nurture the deep knowing of such reality. The knowing of mystery cannot be encapsulated within the baggage of knowing by and for control, the baggage of controlled experiments, methodical planning, and carefully designed behavioral objectives. Mystery is not controllable; its knowing is not calculable. Rather than seeking to control, knowing must engender surrender. Mystery is known by surrendering oneself to the experience of interpenetration between the faith knower and God, the faith knower and creation, the faith knower and neighbor. Indwelling is an act of surrender. Mystery cannot be domesticated; it can only be indwelt. Consequently, the knowing of mystery is not about making the other an object, a Gegen-stand, that which is against one, and whose knowing emerges as one controls it. Rather the knowing of mystery is

about discerning the other as one to be trusted and whose knowing emerges as one subjects oneself to it.¹⁴¹ Knowing God requires one to commit oneself; for mystery, in its essential indeterminacy and unspecifiability, is only known from the inside, from the posture of indwelling. To know mystery is to know the reality that only that which is surrendered to can be deeply known.

The knowing of mystery is anchored in the discernment of knowing and knowledge to be essentially ambiguous, unspecifiable, and committal. The decisive epistemological shifts from Cartesian and positivistic assumptions which these three qualities constitute undergird the viability of the knowing of mystery and illumine how such knowing occurs. But even more fundamentally, the knowing of mystery, the knowing of God, is illuminated through the quality of transcendence. Through the function of transcendence within the experience-knowing of faith, God is known.

The claim for transcendence as inherent within the knowing of mystery faces several problematic trends from traditional epistemologies. Cartesian epistemology discerns transcendence as a construct of disconnection. Transcendence is obtained as the self transcends one's senses and emotions, as the self transcends experience, as the self transcends the object. Positivistic epistemology essentially eschews transcendence. In its equation of reality to only what is evident on the surface to the senses, and its ultimate aim of

control, positivism finds little epistemological value for transcendence. The modern Western world which positivism has primarily shaped is a world which relegates transcendence to fantasy. As Marshall Sahlins observes, "[w]e are the only people who think themselves risen from savages; everyone else believes they descended from gods."¹⁴² For faith knowing of deep truth, especially as such truth arises from the experience of mystery, a different understanding of transcendence and its role in knowing is called for.

Discernment into the knowing of mystery, of God, through Whiteheadian and Polanyian conceptuality finds Cartesian and positivistic orientations toward transcendence to be untenable. Transcendence is fundamental to the knowing of mystery. Definitively, the transcendence which inheres in such knowing is not an experience of separateness, discontinuity, or independence. Rather, transcendence is an experience of more-ness, of that which is more than. As not separate from but more than, that which transcends the knower remains in fundamental linkage with the knower. Thus, it is not the autonomy nor unrelatedness of God that constitutes God's transcendence, but rather, God's presence as being continuous with but more than the faith knower. The knowing of mystery depends upon just such a definitive concept of transcendence. For without linkage there is no knowing; more specifically, without fundamental linkage with that which is beyond oneself, there is no knowing of it.

Transcendence, which is more than but linked with the faith knower, is known by means of intimations. Since mystery or God is not totally separate from the faith knower and his/her experience, clues become viable means of knowing what is here but beyond. To know that which transcends is to interpret clues, to see through them into the mystery. In Polanyian terms, to know is to indwell the clues, the intimations of what is not yet fully known. Reliance upon those intimations constitutes the experience-knowing of faith; as one steps into the clues, one finds oneself linked with transcendence, and therein one comes to know mystery, comes to know God.

Further, transcendence, as more than, is experienced not through a denial of experience, but through the immersion into experience. The immersion into experience brings the realization that transcendence is a mutual act. In the continual becoming and perishing which underlies all being and knowing, mutual transcendence occurs as the self transcends the other and the other transcends the self. The transcendence embedded in the "many becoming one and increased by one" denotes transcendence as a process of alternately opening to the other and giving to the other, of alternately taking the other in and being embraced by the other. Here, transcendence becomes a function of "living beyond," living beyond the self, living beyond the present, living beyond this space, and of offering that experience to an other. While

Cartesian transcendence exclusively resides in transcendence by the self of the other, and thereby engenders certitude and eschews mystery, the transcendence embedded in faith knowing of deep truth resides in mutual transcendence, so that the transcendence by the other of the self always inserts ambiguity and mystery into knowing.

For the ancients, the experience of mystery was the source of all significant knowing.¹⁴³ Knowing which incorporates ambiguity, unspecifiability, surrender, and transcendence is a knowing of deep meaning. In re-claiming that deep sense of the epistemological connection between mystery and significance, this model of faith knowing posits that it is possible to know mystery; indeed, it is imperative that humans know mystery. Without it meaning becomes obscure and elusive. But even more fundamentally, it is imperative for faith persons to discern the ways in which mystery is known. For herein is the knowing of God.

NOTES

Chapter 5

¹ Raimundo Panikkar, lecture, Lexington Theological Seminary, Lexington, Kentucky, 11 October 1989.

² Whitehead, Adventures of Ideas, 26-27. Whitehead is here referring to a mental habit. While the depth of ingression of deep truth is similar to such habits, deep truth does denote a more wholistic experience than just mental habits.

³ Oliver and Gershman, 181.

⁴ Jerry H. Gill, "On Knowing the Dancer from the Dance," Journal of Aesthetics and Art Criticism 34 (Winter 1975): 130.

⁵ Huston Smith, "Excluded Knowledge: A Critique of the Modern Western Mind Set," Teachers College Record 80 (February 1979): 430. In religious education epistemology Paul Bumbar is an example of this stream. Bumbar argues for a physiological grounding for the knowing of God. Identifying four ways of knowing, he grounds all four in the physiological functioning of the human brain. See Bumbar, "To Know God...But How?" Religious Education 86 (Winter 1991): 123, 133. While the four modes are well discerned, their grounding in "matter," in the physiology of human life, is problematic.

⁶ Whitehead, Process and Reality, See Chap. 3 of this dissertation, pp. 133-34.

⁷ David Bohm, Wholeness and the Implicate Order (London: Routledge & Kegan Paul, 1980), 6.

⁸ Polanyi, Personal Knowledge, 279.

⁹ Jerry H. Gill, On Knowing God (Philadelphia: Westminster Press, 1981), 143.

¹⁰ John H. Westerhoff, Living the Faith Community (Minneapolis: Winston Press, 1985), 44.

¹¹ Oliver and Gershman, 165.

¹² Oliver and Gershman, 237.

¹³ See Owen Barfield, Speaker's Meaning, for a provocative historical analysis of the meaning of the word "subjective." Barfield uses the Oxford English Dictionary and finds the shift in the word's meaning through the last three centuries to be:

| | |
|-------------------------------------|---|
| --17th Century subjective meant: | "pertaining to the essence or reality of a thing; real" |
| --first half 18th Century it meant: | "having its source in the mind" |
| --latter 18th Century it meant: | "pertaining to an individual and his mental operations; personal; individual" |
| --19th Century subjective meant: | "existing in the mind only, without corresponding to reality; illusory, fanciful" |

Owen Barfield, Speaker's Meaning (Middletown, Conn.: Wesleyan University Press, 1967), 114-15.

¹⁴ Brumbaugh, 40.

¹⁵ Huston Smith, "Beyond the Modern Western Mind Set," Teachers College Record 82 (Spring 1981): 435.

¹⁶ Douglas Sloan, Insight-Imagination: The Emancipation of Thought and the Modern World (Westport, Conn.: Greenwood Press, 1983), 6. Sloan links the emergence of individuality, of the sense of selfhood, with the rise of science; "indeed, the two seem to have emerged hand in hand, each reinforcing the other" (p. 151).

¹⁷ Owen Barfield, "The Rediscovery of Meaning," Saturday Evening Post, 7 January 1961: 64. David Bohm explicates the role of the photographic lens in engendering and reinforcing this concept of knowing: "[T]he photographic lens is an instrument that has given us a very direct kind of sense perception of the meaning of the mechanistic order, for by bringing about an approximate correspondence between points on the object and points on the photographic image, it very strongly calls attention to the separate elements into which the object can be analysed. By making possible the point-to-point imaging and recording of things that are too small to be seen with the naked eye ..., it leads us to believe that eventually everything can be perceived in this way. From this grows the idea that there is nothing that cannot also be

conceived as constituted of such localized elements. Thus, the mechanistic approach was greatly encouraged by the development of the photographic lens." Bohm, 176-77.

18 Gill, On Knowing God, 74.

19 See Stern, 42; and Parker J. Palmer, To Know As We Are Known: A Spirituality of Education (San Francisco: Harper & Row, 1983), 23.

20 Gill, On Knowing God, 89. See Gill's survey of the critical (what is in this study being called Cartesian and positivistic) epistemology's concept of experience (pp. 13-52).

21 Paulo Freire, The Politics of Education: Culture, Power, and Liberation (Granby, Mass.: Bergin & Garvey, 1985), 69.

22 Gill, On Knowing God, 78.

23 See pp. 166-67 in the Whitehead chapter of this dissertation.

24 Owen Barfield, Speaker's Meaning, 115.

25 This premise rests upon the constructs of internal relations and indwelling as characterizing the relationship between humans, as subjects, and God, as object, within experience-knowing. The role of internal relations and indwelling will be explicated subsequently (see pp. 380-90).

26 Sloan, Insight-Imagination, 96.

27 Brumbaugh, 25.

28 In her exploration of Cartesianism, Susan Bordo reflects upon the decisive move in the Cartesian era away from the Platonic view of subject-object relations. Plato asserted that "becomings" occurred between the sense organs and the object through the "intercourse" which "gives birth" to colors, heat, hardness, etc. In the Cartesian era the space between organs of perception and objects was nullified and replaced by a space inside subject which stands between the subject and the world. See Bordo, The Flight to Objectivity, 35-36.

29 See pp. 147-48 and 177-78 of the Whitehead chapter of this dissertation; and also Whitehead, Adventures of Ideas, 178-79.

³⁰ The description is Parker Palmer's. See Palmer, "Truth Is Personal: A Deeply Christian Education," Christian Century 98 (October 21, 1981): 1052.

³¹ Webb, 5. In his book Webb discusses this school of thought through two representatives of it, Rene Girard and Jean-Michel Oughourlian. Webb notes that both hold that "the human 'self' or center of consciousness is not a strictly individual thing or attribute, but is continuously formed in and by relationships between different human beings (hence the term interdividuel or 'interdividual'...)," p. 5. Later, Webb asserts that for Oughourlian, the traditional concept of a psychological "ego" or "self" is inadequate. Webb continues: "Traditional psychologies of intersubjective relation, [Oughourlian] says, have begun with the assumption that prior to such relations there are preexisting subjects. Oughourlian replaces the notion of such a subject with that of what, following Arthur Koestler's Janus, he terms a 'holon,' by which he means a structured psychological unit in process that develops as a ['self'] by way of and in absolute dependence upon the interdividuel relationship in which it is involved with another holon that becomes to it a model, obstacle, or rival. It is the relationship, in other words, that is fundamental, not the entities related.... It is not the encounter of two selves that creates the relation; it is the relation that gives birth to each of the selves." Webb, 217, note 3.

³² Carter Heyward, "The Power of God-with-Us," Christian Century 107 (March 14, 1990): 276.

³³ Mary Gerhart and Allan Russell, Metaphoric Process: The Creation of Scientific and Religious Understanding (Fort Worth: Texas Christian University Press, 1984), 52.

³⁴ The term is Owen Barfield's. By it he is not evoking any discussion of knowing as conscious or unconscious, but rather of knowing as an orientation or posture toward the world and its objects. Barfield's work has been in the exploration of the evolution of consciousness, or world view. His work uncovers the progressive decline of the "participating consciousness" from the medieval era to the present.

³⁵ Owen Barfield, Saving the Appearances, 22. See pp. 15-18 for his explication of the rainbow illustration.

³⁶ Sloan, Insight-Imagination, 98.

³⁷ Wilfred Cantwell Smith, cited in Huston Smith, "Beyond the Modern Western Mind Set," 457, note 47.

38 Gerhart and Russell, 169.

39 Michael Polanyi, Knowing and Being, 184.

40 Bordo, The Flight to Objectivity, 103.

41 Gabriel Moran, "Interest in Philosophy: Three Themes for Religious Education," Religious Education 81 (Summer 1986): 441.

42 Gill, On Knowing God, 75.

43 I am indebted to Oliver and Gersham, 185, for the descriptive phraseology.

44 Heyward, 275.

45 Lamin Sanneh, "Particularity, Pluralism and Commitment," Christian Century 107 (January 31, 1990): 104. This emphasis upon relationality as the ground of being counters the onlooker consciousness which is predicated upon a separated and individuated self. There are values, however, to the onlooker consciousness. Much of the contemporary feminist advocacy for self differentiation and individuation has value in a context where diffusion of the boundaries between self and world has made impossible self definition. In such a context the distancing inherent in an onlooker consciousness becomes a valid process by which self definition can be accomplished. The point being made here, however, is that such a self severed from one's deeper participation with others and with reality is to be denied. The advocacy for self differentiation must not be at the expense of this fundamental rootage in relationship.

46 Richard Rorty, Philosophy and the Mirror of Nature, 360.

47 The descriptive phrase is Ronald Brady's. See Brady, 142.

48 Love is here defined as an act of relationship which enacts good will toward another. While not exclusive of feeling, it is not to be equated with feeling, but more with the will, the will which intends the best for the other.

49 Oliver and Gersham, 86. Oliver and Gersham explore the linkage of the English language and structure to the "subject-acting-on-object" structure of knowing. They cite Benjamin Whorf's comparison between the English and Hopi languages. The analysis is illuminative of how the English language structure reinforces a "subject-here" acting on an "object-out-there" structure of knowing. Whorf explains: "We

are constantly reading into nature action-entities, simply because our verbs must have substantives in front of them. We have to say 'It flashed' or 'A light flashed', setting up an actor, 'it' or 'light', to perform what we call an 'action', 'to flash.' Yet the flashing and the light are one and the same! The Hopi language reports the flash with a simple verb, *ri-pi*: 'flash (occurred).' There is no division into subject and predicate.... Hopi can and does have verbs without subjects, a fact which may give that tongue potentialities as a logical system for exploring and understanding aspects of the universe." Whorf, "Time, Space and Language," in Culture in Crisis, by Laura Thompson (New York: Harper and Brothers, 1950), Chap. 8, cited in Oliver and Gershman, 87.

50 In one vein Whitehead does mute the function of knowing for being. He definitively links knowing to conscious states. See Adventures of Ideas, 176-77. When knowing is predicated upon consciousness its role in being, and in the knowing of deep truth, is limited. Overall, however, Whitehead's metaphysical analysis links knowing to being.

51 Gill, "On Knowing the Dancer from the Dance," 125.

52 Gill, "On Knowing the Dancer from the Dance," 127.

53 See for example, Andrew Grannell, "The Paradox of Formation and Transformation," Religious Education 80 (Summer 1985): 384-98. In this article, Grannell accents the oppositional tension of the theoretical frames of James Loder (transformation) and James Fowler (formation). He concludes by asserting that the paradox is ultimately unresolvable.

54 S. T. Coleridge, Biographia Literaria, ed. J. Shawcross, vol. 1 (London: Oxford University Press, 1962), 94, cited in Shirley Sugerman, "An 'Essay' on Coleridge on Imagination," Evolution of Consciousness: Studies in Polarity, ed. Shirley Sugerman (Middletown, Conn.: Wesleyan University Press, 1976), 193.

55 See Gerhart and Russell, 173.

56 Definitively, the tacit construct is here equated to that which is relied upon as one focuses upon something else. This definitive accent stands in tension to some uses of Polanyi's tacit construct in the literature. Jerry Gill equates tacit with subsidiary and bodily activity. See Gill, On Knowing God, 94. But while all tacit knowledge is subsidiary, not all tacit knowledge is necessarily bodily activity. Some tacit knowledge is constituted by what Polanyi calls "Back of the Mind" concepts. In one of his discussions of tacit, Douglas Sloan poses tacit as unconscious. See

Sloan, Insight-Imagination, 141. But some tacit knowledge can be consciously held. One's reliance upon the chair as one sits is tacit but also conscious knowledge. The definitive issue of the tacit structure is not consciousness or unconsciousness, but its unspecifiability.

57 Ludwig Wittgenstein, On Certainty (Oxford: Basil Blackwell, 1963), #378, cited in Gill, On Knowing God, 101.

58 W. C. Smith, Faith and Belief, 43-44.

59 W. C. Smith argues that pre-suppositional believing is more impersonal and abstract than explicit believing. He argues that when one can explicitly claim "I believe..." the belief reaps the intensity of personalness and concreteness which is lacking in pre-suppositions. See W. C. Smith, Belief and History, 55. The validity of Smith's argument rests upon his equation of personalness with first person belief claims. What Smith fails to realize, however, is that first person beliefs can reside in tacit, presuppositional knowing. The "I believe..." claim is not necessarily a function of explicit conceptualization. For example, this study claims that deep truth, while a first person belief claim, is primarily tacit; it resides more in what is lived than in what is said. But its tacitness does not diminish the intensity of its personalness and concreteness; in fact, tacitness serves to deepen personalness and concreteness.

60 The phrase is Jeffrey Kane's. See Kane, Beyond Empiricism, 254.

61 James W. Wagener, "The Policy of Michael Polanyi as a Source for Educational Theory" (Ph.D. diss., The University of Texas at Austin, 1968), p. 146, cited in Kane, 234.

62 See Sloan, Insight-Imagination, 142.

63 In the structure of reliance, the necessity of culture and community for provision of tradition, authority, and world view is predicated upon the assertion that knowing never takes place in a vacuum. Every knowing experience draws upon some tradition or world view. Therefore, the faith community must be cognizant that the tradition and world view of the culture presents an issue for educational ministry. When the tradition and world view of the culture is antithetical to that of the faith community, it offers a subsidiary base for indwelling which negates the subsidiary base of the faith community. It is not a trivial matter which tradition and world view one indwells. Further, indwelling will always occur. Therefore, those parents who insist that they will not force their children to come to worship but will stand back and give their children an "open space" so that they can then

make their own decisions fail to realize that the tacit indwelling of a "non-worship" world view is taking place. There is no such thing as a subsidiary "open space," a subsidiary void. One must always tacitly indwell some subsidiary when interacting with the world. A guidance posture of laissez faire on the part of parents and teachers rests on fallacious ground.

64 Groome, 42-46.

65 See Bumbar, 126-29.

66 Bohm, 185.

67 See Whitehead, Adventures of Ideas, 154-55.

68 See Whitehead, Adventures of Ideas, 154-55.

69 Panikkar, lecture, 11 October 1989.

70 See the discussion of non-sensuous perception on pp. 191, and 196-98 of the Whitehead chapter of this dissertation; and Whitehead, Adventures of Ideas, 180-84.

71 Whitehead, Adventures of Ideas, 225.

72 Poiesis engenders the know-how of skills and praxein, the know-how of behavior and the right response in given situations. See Bumbar, 126-27.

73 Blaise Pascal, Penses, #253-282, cited in Gill, On Knowing God, 52.

74 Polanyi, Personal Knowledge, 279.

75 Urban plunging denotes an experiential learning exercise in which people go into inner cities with \$1.00 in their pocket to live for an extended time on the streets. The experience is undertaken in order to gain knowledge of the life and problems of homeless people of the urban cities.

76 See Rollo May, Love and Will (New York: W. W. Norton, 1969), 236.

77 The role of the concrete will be explicated later. See pp. 423-33 of this dissertation.

78 While not equated with it, non-sensuous knowledge is kin to the emphasis upon transrational knowing which C. Ellis Nelson asserts. Nelson equates transrational with non-rational. See Nelson, 41, 68, 69, 75. Non-sensuous knowledge is distinct from conceptual knowledge and therefore can be

labeled non-rational. However, given the common use of the term "rational" to denote veracity, the use of non-rational for faith knowing is dubious. Faith knowing is not irrational but is grounded in credible and veracious knowing.

79 This claim for the primacy of non-sensuous knowledge (and also of perceptual knowledge) is in tension with more common contentions in faith epistemology for the primacy of conceptual knowledge. James Fowler is one proponent of the foundational role of conceptual or rational knowing. He asserts that it is conceptual knowledge which must be employed as the critique and evaluative standard for all the categories. See Fowler, "Faith and the Structuring of Meaning," 25. Fowler's elevation of conceptual or rational knowing is here called into question. The ground of faith knowing is non-sensuous and intuitive knowledge. It is one's non-sensuous knowing which needs to be used as the evaluative standard for what one knows by reasoned reflection.

80 Gill, On Knowing God, 70. See also Groome, 87-88, for an explication of the role of the body in religious knowing.

81 The phrase is Jerry Gill's. See Gill, On Knowing God, 71.

82 Gill, On Knowing God, 70.

83 The phrase is Amelie Rorty's. See Rorty, "Cartesian Passions and the Union of Mind and Body," 520.

84 See Owen Barfield, Speaker's Meaning, 53.

85 See Gill, On Knowing God, 95. For a provocative analysis of body knowledge see Naomi R. Goldenberg, "The Body of Knowledge: 'Religious' Notions in the Convergence of Psychoanalysis and Feminism," Knowing Religiously, ed. Leroy S. Rouner (Notre Dame: University of Notre Dame Press, 1985), 116-31.

86 W. B. Yeats, cited in Groome, 7.

87 Bordo, The Flight to Objectivity, 193.

88 This writer is indebted to Owen Barfield for some of this insight. Barfield observes that perception comes by sense organs and that touch is the nearest sensation without perception and sight is the nearest perception without sensation. See Barfield, Saving the Appearances, 20. While sight is a perception without sensation, only in a very narrow sense of perception can it be claimed that touch is a sensation without perception. However, Barfield's point of the variation of sensation in sight and touch is insightful.

⁸⁹ See Gill, On Knowing God, 67.

⁹⁰ Evelyn Fox Keller and Christine R. Grontkowski, "The Mind's Eye," Discovering Reality: Feminist Perspectives on Epistemology, Metaphysics, Methodology, and Philosophy of Science, eds. Sandra Harding and Merrill B. Hintikka (Dordrecht, Holland: D. Reidel Publishing, 1983), 213. Keller and Grontkowski cite the work of Eric Havelock who argues that the cultural shift to vision can be dated to ancient Greece where "the eye supplanted the ear as the chief organ." Havelock then extrapolates from that shift the concomitant changes which were induced by it -- "changes from identification and engagement to individualization and disengagement, from mimesis to analysis, from the concrete to the abstract, from mythos to logos." See Eric A. Havelock, Preface to Plato (Universal Library, 1967), cited in Keller and Grontkowski, 209.

In their article Keller and Grontkowski explore the paradoxical tension of vision in its function as both a dissociative and connective sense. They are to be credited for making explicit this paradox. On the one hand, vision functions to reinforce distance between a subject and object and thereby becomes a paradigm of disengaged knowing. On the other hand, vision functions to promote a sense of communion as evidenced in the power of direct eye contact. In this latter function, vision becomes a paradigm of knowing by communion. See Keller and Grontkowski, 220.

⁹¹ Hans Jonas, "The Nobility of Sight," Philosophy and Phenomenological Research 14 (1954): 507, cited in Keller and Grontkowski, 218-19. Jonas suggests that such epistemological language as "getting a proper view by taking the proper distance" is telling for the kind of truth being sought.

⁹² G. N. Vesey, "Vision," The Encyclopedia of Philosophy, vol. 8 (New York: Macmillan, 1967), 252, cited in Keller and Grontkowski, 221.

⁹³ The role of passion in this paradigm will be explicated later (see pp. 433-35). In the context of this apologetic for the role of touch in faith knowing of deep truth, it must be acknowledged that the contemporary situation in which the church finds itself makes touch problematic. In a society where inappropriate touch has so bruised its positive contribution, touch now must be circumscribed by caution and selectivity. It is the argument of this study, however, that persons who never receive nor give positive touch are inhibited in faith knowing.

⁹⁴ Whitehead, Science and the Modern World, 198.

⁹⁵ Whitehead, Science and the Modern World, 199.

⁹⁶ The phrase "concrete instantiations" is Robert Brumbaugh's. See Brumbaugh, 17. Whiteheadian conceptuality posits that such "concrete instantiations" are revelational. For it is in concrete reality that past and future are embodied. For Whitehead, the future found in the present concrete instance comes from God.

⁹⁷ See Whitehead, The Aims of Education, 51.

⁹⁸ See Bordo, The Flight to Objectivity, 190.

⁹⁹ David Bohm articulates this premise as it exists in the world of physics: "Entities, such as electrons, can show different properties (e.g., particle-like, wavelike, or something in between), depending on the environmental context within which they exist and are subject to observation." Bohm, 175.

¹⁰⁰ Panikkar, lecture, 11 October 1989.

¹⁰¹ See Alison M. Jaggar and Susan R. Bordo, introduction to Gender/Body/Knowledge: Feminist Reconstructions of Being and Knowing, eds. Alison M. Jaggar and Susan R. Bordo (New Brunswick: Rutgers University Press, 1989), 9.

¹⁰² Nietzsche, On the Genealogy of Morals (New York: Vintage, 1969), 119, cited in Bordo, "The Cultural Overseer and The Tragic Hero," 185.

¹⁰³ W. C. Smith, Belief and History, 38.

¹⁰⁴ Dwayne Huebner, "Religious Metaphors in the Language of Education," Religious Education 80 (Summer 1985): 471.

¹⁰⁵ Nietzsche, On the Genealogy of Morals, 119, cited in Bordo, "The Cultural Overseer and The Tragic Hero," 201.

¹⁰⁶ See Bordo, "The Cultural Overseer and The Tragic Hero," 201.

¹⁰⁷ Sloan, Insight-Imagination, 156.

¹⁰⁸ Fowler, Becoming Adult, Becoming Christian, 118-19. Fowler posits that the centrality of passions or emotions in faith knowing is discerned both in the central Passion of the Incarnation and in the Scriptural admonitions for a Kingdom of love and Spirit-filled living: a Kingdom wherein abide "love, joy, peace, patience, kindness, goodness, fidelity, gentleness and self control" (Gal. 5:22).

¹⁰⁹ Huston Smith, "Excluded Knowledge," 424.

110 May, 230. See May's entire chapter on "Intentionality" for a penetrating explication of the will within knowing and experience.

111 May, 236.

112 May, 232.

113 The Latin stem intendere includes the meaning of "to stretch." Sloan, Insight-Imagination, 170.

114 Wagener, 52.

115 Panikkar, lecture, Lexington Theological Seminary, Lexington, Kentucky, 12 October 1989.

116 Palmer, "Truth Is Personal," 1051-052.

117 Bohm, 3.

118 Whitehead, Science and the Modern World, 79.

119 The experience of oneself as a whole is counter to much of the modern Western world view. One reason it is so difficult to experience in predominately English speaking societies is the English language structure itself which uses a syntax that divides being and experience into parts. Oliver and Gersham cite Dorothy Lee's description of the language structure of the Wintu people of North America which provides an illuminative contrast to the English syntax. Lee explains: "The premise of primacy of the whole finds expression in the Wintu concept of himself as originally one, not a sum of limbs or members. When I asked for a word for the body, I was given the term the whole person. The Wintu does not say my head aches; he said I headache.... A Wintu girl does not say her dress was striped but she was dress-striped." Lee, "Linguistic Reflection on Wintu Thought," Explorations in Communication, eds. Edmund Carpenter and Marshall McLuhan (Boston: Beacon Press, 1960), 15, cited in Oliver and Gersham, 228.

120 Transcendence and mystery within faith knowing will be explicated more fully in the last section of this chapter (see pp. 454-62).

121 Bohm, 177.

122 Bohm, 11.

123 Bohm, 149.

124 Bohm, 149-50.

125 The phrase belongs to M. C. Richards, from his article, "The Public School and the Education of the Whole Person," Teachers College Record 82 (Fall 1980): 60, cited in Sloan, Insight-Imagination, 156.

126 The phrase is Shirley Sugerman's. See Sugerman, 191.

127 See the writings of Owen Barfield and Douglas Sloan for an historical trajectory of this purging from reality of all qualities and of the consequences of such purging. The exploration is especially explicit in the following: Owen Barfield, "Historical Perspectives in the Development of Science," Toward a Man-Centered Medical Science, vol. 1., eds. Schaefer et al. (Mt. Kisco, N. Y.: Futura Publishing, 1977), 121-25; Owen Barfield, "Language, Evolution of Consciousness, and the Recovery of Human Meaning," Teachers College Record 82 (Spring 1981): 428-31; Owen Barfield, "The Rediscovery of Meaning," 61, 64; Sloan, Insight-Imagination, 1-16. See also the essay by Owen Barfield's brother, R. H. Barfield on Darwinism: R. H. Barfield, "Darwinism," Evolution of Consciousness: Studies in Polarity, ed. Shirley Sugerman, 71-80. Huston Smith also explores the consequences of the mitigation of quality in modern epistemology. See "Excluded Knowledge."

128 Owen Barfield, "Historical Perspectives in the Development of Science," 123.

129 C. S. Lewis, The Abolition of Man: or Reflections on Education with Special Reference to the Teaching of English in the Upper Forms of Schools (New York: Macmillan Co., 1947), 14. The subtitle of the subsequent edition of the book was "How Education Develops Man's Sense of Morality."

130 Lewis, 25.

131 Sloan, Insight-Imagination, 39.

132 William James, The Principles of Psychology, vol. 2 (New York: Dover Publications, 1950), 314, cited in Sloan, Insight-Imagination, 111.

133 In his article "Interest in Philosophy," Gabriel Moran notes that the older meaning of "interest" was "inter-est," that which stands between us. See Moran, 434. The assertion of this study that meaning resides not in the other, nor in the self, but in the connection between the two, evokes this sense of "inter-est." In its deepest sense, interest connotes meaning. What one is interested in has meaning for one. And thus it is that meaning resides in "that which stands between us."

134 Brumbaugh, 93. Here Brumbaugh is summarizing Whitehead from The Function of Reason.

135 Oliver and Gershman, 217.

136 See Murray Bookchin, The Ecology of Freedom (Palo Alto, Calif.: Cheshire Books, 1982), cited in Oliver and Gershman, 231.

137 Oliver and Gershman, 167 and 193.

138 Gill, On Knowing God, 105.

139 Sloan, Insight-Imagination, 21.

140 The Baconian drive inherent in scientific epistemology is to gain increased control over nature. In Bacon's words, the goal of scientific knowing is to "put nature to the rack, to torture her secrets from her." Such an aim places scientific epistemology on a definite course. See Sloan, Insight-Imagination, 5. See also Huston Smith's writings for pivotal explorations of how the desire to control shapes epistemology.

141 Parker, Truth Is Personal, 1055.

142 Marshall Sahlins, Culture and Practical Reason, (Chicago: University of Chicago Press, 1976), cited in Huston Smith, "Excluded Knowledge," 432, note 18.

143 Sloan, Insight-Imagination, 21.

CHAPTER 6

Pedagogy of Deep Truth

I'd rather learn from one bird how to sing
then teach ten thousand stars how not to dance.

--E. E. Cummings¹

What is it to teach deep faith truth? What is it to, in the poet's words, resist teaching "ten thousand stars how not to dance," and rather to "learn from one bird how to sing?" Rather than a teaching process of analytical dissection which teaches one how to perceive stars, not as dancers, but as light waves methodically moving through the atmosphere,² can teaching be experienced as a process of guiding one in learning the mysterious art of a bird's song? What is the nature of a teaching process that participates in the formation of the being of another, that nurtures the unique song of the learner? More specifically, what is the teaching process that nurtures the song of faith within the depths of being of faith learners? In contrast to certitude, explication, objectivity, and control, the knowing of mystery is anchored in ambiguity, unspecifiability, interpenetration, intimations, and surrender. Can we envision what a teaching process of these qualities would look like?

Resistance to these pedagogical questions may lie in the argument that deep faith truth cannot itself be taught, only learned. What can be taught is the faith knowledge of content, the content of Bible, tradition, and religious practices. But deep truth is beyond the reach of teaching processes.

However, this study finds the very fact that deep faith truth is not innate, that it is learned, to be the foundation of and call for processes which do engender that learning, processes which teach. Teaching is here defined as an intentional effort to influentially participate in the learning experience. Efforts which intend to sustain, nurture, and guide the formation of deep faith truth constitute its teaching processes. While not all deep faith truth is consequent to such teaching processes, teaching does have a significant role in the formation of deep faith truth. Thus, the question of what teaching processes function to engender the learning of deep faith truth has bearing in religious education theory.

The following discussion of pedagogical processes for the learning of deep faith truth is offered with two purposes. One, the discussion functions as an embodiment of the axiom that all epistemologies have incipient teaching-learning theories. The discernment into how one knows implicates the practice of how one teaches; how one teaches embodies a theory of how one knows. In the church the congruence between

epistemology and teaching practice is too often absent. This study would not be adequate as a theoretical base for education in the church without an explicit focus upon how deep faith truth is taught, given how it is known.

Two, the discussion of this chapter functions as a suggestive reflection upon the nature of a teaching process for deep faith truth. Depth studies of these teaching processes must be found in other work, in some cases, work already extant, and in other cases, work yet to be done. While the generality of the following description of the teaching process for deep faith truth is evident, the implications for teaching which are being explicated have depth import for the practice of religious education. Teaching for deep faith truth actualizes distinct practices within the educational life of the faith community.

Teaching as Connoisseurship

The nature of teaching deep faith truth is discerned in the image of teaching as connoisseurship. Both the ethos and the practices of connoisseurship portray significant teaching processes for deep truth. The etymology of connoisseur unmasks its epistemological core. Connoisseur is from the Latin word cognoscere meaning "come to know."³ Given its heartbeat of knowing, the process of "connoisseuring" actualizes a process of teaching, in fact, a very distinctive process of teaching. Both Polanyi's and Whitehead's epistemological paradigms reinforce connoisseurship as a

teaching model.⁴ However, it is the congruence of "connoisseuring" and the knowing of mystery that primarily makes it a significant teaching process for faith knowing of deep truth. In the nurture and guiding of deep faith knowing, teaching is "connoisseuring."⁵

Connoisseurship and mystery become linked through the constructs of discernment and appreciation. In tension with knowing through analysis and description, connoisseurship accents knowing through discernment and appreciation of what is subtle, complex and important.⁶ Connoisseurship is knowing how to see and appreciate. So it is with mystery. Teaching how to discern and appreciate constitutes the teaching of mystery, the teaching of deep faith. In faith connoisseuring one teaches not by proofs but by pointing ("Here is ... ") and exclaiming ("Isn't it wonderful!").

Before explicating various specific pedagogical practices which embody teaching as connoisseuring, this exploration needs to make explicit several presuppositions operative within the concept of a teacher as connoisseur. (1) A teacher as connoisseur functions both as an embodiment of a tradition and as a particularized response to that tradition. Particular connoisseurs within a tradition bring similar, but never duplicate discernments and appreciations. (2) A teacher as connoisseur models the essential unspecifiable and indeterminate nature of his/her knowledge. Thus, a connoisseur fundamentally remains a learner who embodies how

to learn. (3) The teacher as connoisseur bears both individual and corporate identity. Individuals, viz., church school teacher, minister, parents, and peers, and corporate units, viz., faith community, family, classes, and youth groups, function as connoisseurs in the nurturing and guiding of deep faith knowing.

To discern teaching as connoisseuring is to discern a distinctive teaching ethos and its commensurate practices. The pedagogical practices which follow are several which implement such teaching. But even more specifically, these practices function to teach faith knowing of deep truth, to teach within the mystery which centers that faith in the Holy. The practices are explored in no particular order for they form an interconnected web of teaching-learning, a web of connoisseuring.

Pegagogical Practices

Processes of Connection and Interaction

Faith knowing of deep truth is fueled by deep connections and relationships. Whitehead's paradigm discloses the essence of being and knowing to be relational. Polanyi's paradigm reveals the fundamental nature of all knowing to be in an act of integral connection, the act of integration. Teaching which is congruent with such knowing occurs through processes which create and sustain interactive networks of relationships. It is the essence of connoisseuring. In contrast to transmittive teaching, connoisseuring activates

a teacher-learner relationality without which learning would not occur. One cannot learn how to see and appreciate the unspecifiable and subtle qualities of fine wine, or fine art, or the presence of the mysterious Holy, from sitting alone and reading a book. In the very interaction with others, who point to the Holy from their particular angle, one learns what the presence of God looks like and how to appreciate it. Such learning depends upon the relational matrix in which and from which knowledge is derived.

Teaching processes which foster deep interactions are called for in faith knowing of deep truth for three reasons. One, they provide the resources needed for subsidiary indwelling. Through connectional teaching processes the epistemological construct of reliance in faith knowing is given the viewpoints, the concepts, the models, it needs for its functioning. In this purpose, connectional teaching processes stand in stark contrast to separative teaching processes. Separative, isolating, adversarial, competitive, teaching processes impoverish the resources for, and thus stunt, subsidiary indwelling. Connectional, collaborative, interactive, cooperative, teaching processes enrich the resources for, and thus promote, subsidiary indwelling. Further, the affective climate which is nourished by connectional teaching processes enhances the work of reliance. In the connoisseuring of faith teaching, trust is a salient bridge between teacher and learner, between co-learners, and

between God and faith learners. While separative and competitive teaching processes implant closedness and distrust within the learning climate, connectional and cooperative teaching processes engender and nourish openness and trust. The percolating climate of warmth, openness, and trust generates opportunities for deep indwelling.

The interpenetration of subject and object which characterizes faith knowing of deep truth is nurtured through teaching processes of interaction and relationship. Any teaching process which functions to keep subject and object or to keep teacher and learner apart must be questioned as to its congruence with the epistemological patterns which bring about deep knowing. Both Whiteheadian and Polanyian conceptualities warn us that the trivialization and superficiality of relationships in non-participatory teaching process must be of concern. Trivial and superficial relationships mitigate the interpenetration of learning participants. In the connoisseuring of faith teaching, the call for teaching processes of connection and interaction highlights the centrality of the issue of the quality of relationships between those participants and between the subject and the object. As Gabriel Moran notes, "religious education is the study of everything relationally."⁷ Connective and interactive teaching processes embody that axiom.

Two, connectional teaching processes are called for in faith knowing of deep truth because of their expression of indeterminacy. In dialogue, the faith knower finds him/herself in the presence of another angle of view, in the presence of transcendent more-ness. In contrast to transmittive teaching processes which function to encase a given view in fixity and ultimacy, interactive teaching processes nurture the understanding that one's view is neither fixed nor ultimate, but rather participates in particularity. Through the process of interaction, faith learners experience particularity as intimation; each particularity functions as clue, as a clue to what is beyond them all. Thus, the experience of particularity keeps one on the edge of indeterminacy, on the edge of mystery itself. In the connoisseuring of faith teaching, processes which foster this "particularity-in-mutuality" experience are salient means for guiding faith learners in the knowing of indeterminacy.

Three, connectional and interactive teaching processes are called for in faith knowing of deep truth because of their embodiment of surrender. In direct contrast to transmittive and monological teaching processes which embody control, connectional teaching processes bring into the teaching activity an experience of surrender. The issue here is the role of the unexpected in teaching. Teaching processes which function through high control mechanisms mitigate the knowing of deep faith as they attempt to eliminate the unexpected.

But the inherent potential in connectional and interactive teaching processes for the unexpected, for surprise, makes them crucial processes for the connoisseuring of deep faith. Given the creative advance and its incipient mystery in which the knowing of faith is embedded and especially attuned, the entry of the unplanned into teaching contexts is to be welcomed. Indeed, the very openness to the unexpected is a requirement for knowing mystery. Connectional teaching processes both model and nurture such openness; interactive teaching processes create the climate and opportunity for surrender.

Processes for Intuition and Imagination

The connoisseuring of faith teaching accents the integral role of intuition and imagination as learning mediums. To teach through connoisseuring is to teach what is essentially unspecifiable. Polanyi's conceptuality asserts that in the nature of tacit knowledge, what is being learned fundamentally cannot be specified. It is taught therefore by being shown, embodied, and pointed to. Intuition and imagination are crucial means of apprehending the unspecifiable, of perceiving what is shown, embodied, and pointed to. Thus, predicated upon the epistemology of deep truth, teaching processes need to: (1) employ intuition and imagination as methods for learning deep faith truth; and, (2) seek to develop the intuitive and imaginative capacity of faith knowers.

While teaching processes of intuition and imagination are in many ways cousins, and are therefore linked, they are distinct. Some distinct definitions are needed. All three theorists of this study definitively link intuition with self evidence. However, in tension with Descartes's assertion that self evidence is predicated upon reason, Polanyi discerns intuition to be self evidence by virtue of the tacit integration. For both Polanyi and Whitehead intuition is anchored in the unspecifiable as it emerges through the prehensive integration.⁸ Intuition is a sense of the whole which emerges through the indwelling and integration of subsidiary clues.⁹

Imagination, contrary to popular usage, does not refer to fictional or illusory perceptions. Rather, imagination undergirds the knowing of reality. Definitively, imagination is the image-making power of cognition.¹⁰ In faith knowing and its teaching, imagination functions in two modes. In one mode, imagination functions in the apprehending of potentiality. In Whiteheadian conceptuality, imagination is the capacity of each occasion to prehend the initial aim from God. Through imagination the faith knower discerns the possibility of what is not yet, discerns the Kingdom. Without imagination, there would be no creative advance, only static duplication. The knowing of potentiality depends upon imagination.¹¹ In this mode of functioning imagination is akin to intuition. As in intuition, imagination functions through

indwelling to discern possibility. By indwelling subsidiary clues, one images what could be, given those clues. In many ways, it is through imagination's prehension of potentiality that one comes to know God, specifically to know the transcendent God, the God who is beyond all that presently is.

Imagination and intuition are central in the faith knowing of deep truth. They engender the knowing of God not only through the discernment of God in potentiality, but also through the discernment of God in past and present experience. Imagination and intuition enable faith knowers to see the world as significant, as embodying that which is not visibly present, that which is not limited to what lies on the surface. It is through imagination and intuition that we have, in Mary Warnock's words, "a sense that there is always more to experience, and more in experience than we can predict."¹² Imagination and intuition bring to the human knower the capacity to perceive the more to and more in which inheres in his/her experience. The discernment of the depth reality, and the depth meaning, present in that which is visibly manifest depends upon the perceptive work of imagination and intuition. The discernment of the presence of God in one's experience depends upon this discerning power of imagination and intuition.¹³

Before addressing the second mode through which imagination functions, this discussion needs to explicate the teaching processes which develop and guide the cognitive work

of imagination-intuition. In the connoisseuring of faith knowing, teaching processes which draw upon and enrich the imaginative and intuitive capabilities of learners are crucial. Rather than seeking descriptive and analytical responses, faith connoisseurs need to nourish in learners imagistic and evocative discourse. Teaching processes which probe learners to reflect upon "Why is it ... ?" and "What if ... ?" bring to expression intuited knowledge. Such why and what if probes must be drawn from the genre of the non-rational, or trans-rational, e.g.: "Why did God make animals with different sounds?" "Why do roses have thorns?" "What is heaven?" "What would it look like if the church was the full embodiment of God's reign?" In teaching processes which accent intuitive and imaginative knowing, the contradictory or fragmented responses which often accompany intuitive and imaginative discerning do not denigrate the validity of that knowledge, but indeed often evidence the deep knowing of mystery. Connoisseuring is the embracing of ambiguous and often paradoxical reflection. In the teaching of deep faith truth such reflection is sought. Thus it is that teaching processes which draw upon resources of poetry, story, journals, and imaginistic meditations hone the imaginative and intuitive cognitive skills of faith learners, indeed, hone the faith knowing of deep truth.

As the image-making power of cognition, imagination functions in two modes. Through one mode humans discern

possibility. Through the other mode humans form deep seated images. Images are mental pictures. But even more profoundly, they are pictures which have taken up residence in the mind. Richard Osmer defines image as "a gestalt of feeling and cognition that coalesces into a relatively static internal representation."¹⁴ Susanne Langer offers a more refined definition as she contrasts image with sensation.

[T]he subjective record of sense experience, the "sense-image," is not a direct copy of actual experience, but has been "projected," in the process of copying, into a new dimension, the more or less stable form we call a picture. It has not the protean, mercurial elusiveness of real visual experience, but a unity and lasting identity that makes it an object of the mind's possession rather than a sensation.¹⁵

As internal representations, images are born and nourished in experience. Through imagination one takes from the raw, undifferentiated experience a certain perception and gives it form, but most of all, significance.¹⁶ An image is born.

The efficacy of images for knowing deep truth is illumined by their pervasive influence over beliefs and actions. As relatively static internal representations, images are often fueled by a passion which is not swayed by reason. In her work on images, Nelle Morton highlights the power of images, in contrast to concepts, to form one's life.

Images refer to that entity which rises out of conscious and unconscious lives individually and in community that may shape styles of life long before conceptualization takes place. Images, therefore, are infinitely more powerful than concepts. Concepts can be learned. Concepts can be corrected and can be made precise. Concepts can be formulated, enclosed, and controlled. Concepts are

linear. Images, on the other hand, cannot be so controlled. They are not so easy to identify or to describe. They have a life of their own. Often they function when persons are most unaware of their functioning.¹⁷

Deep knowledge often resides in images which the knower holds with great passion.

In the knowing of meaning, in the knowing of mystery, images are fundamental. As Nelle Morton says, "we live out of our images; not out of our concepts or ideas. Yet [we] continue to teach conceptually."¹⁸ Teaching for the development of deep seated images becomes a crucial issue for those who seek to engage in connoisseuring of deep faith. Images are most often tacit constructs. They coalesce through subsidiary indwelling without dependence upon conceptual formulation. Thus, they underlie and inform conceptualization. Guidance in their formation requires focused attention to the experiences learners have and to the models they are presented. It requires focused attention upon contexts and their efficacy in teaching images. In faith knowing of deep truth the shift from ideas and concepts, anchored in thought and reason, to images, anchored in perception and feeling, calls for a pedagogical shift from conceptual processes to contextual processes. An essential process in the connoisseuring of faith teaching is the development of rich learning contexts in which learners are presented with many models and images and experiences of embodied faith. In contrast to teaching conceptually,

connoisseuring draws upon teaching processes which seek to surround learners and to saturate the pores of learners with images of what faith knowing of deep truth looks like. Such teaching processes function to develop the presuppositional heritage of deep faith images necessary for the reliance of learners as they engage in their own coming-to-know of deep faith truth.

Processes for Metaphor and Symbol

The inherent ambiguity, indeterminacy, and unspecifiability of faith knowing of deep truth calls for teaching processes which develop the learner's capacity to know metaphoric and symbolic truth. The skills to discern truth embedded in metaphor and symbol are crucial for faith knowing. In an increasingly technological world with its incipient positivistic epistemology, the sensitivities toward and skills in metaphorical cognition are being eclipsed.¹⁹ Against these current trends, teaching for deep faith knowing must reclaim the efficacy of metaphor and symbol to reveal truth. For this teaching, faith connoisseurs need to relearn from the wisdom of traditional cultures the role of symbol in deep knowing. Such wisdom reminds us, in Douglas Sloan's words, that it is symbols which "sum up and convey the experience of living in a universe in which everything visible is an expression and invocation of the larger reality from which it comes."²⁰ Deep truth is conveyed by symbol. Although metaphor and symbol denote distinct categories of

content, the similarity of their implications for teaching processes allow their linkage for the following discussion.

The teaching of faith knowing of deep truth calls for teaching processes focused upon metaphor and symbol for three reasons. One, the inherent imprecision of deep faith truth implicates metaphor and symbol as its best linguistic formulation. Faith knowers learn how to know truth which is ambiguous and imprecise through learning how to discern truth resonant in metaphor. Thus, conceptual teaching processes which focus upon precision and linear description divert, at best, and undercut, at worst, faith knowing of deep truth. The development of sensitivity to truth in the multivalency of metaphor and symbol is a learning goal to which connoisseuring of faith teaching must be attuned. The indeterminacy of mystery draws upon metaphor. Thus it is that the skills in the discernment and use of metaphoric truth create in the knower a deep well linked to the springs which nourish the knowing of mystery.

Two, faith knowing of deep truth implicates the teaching for metaphor and symbol because of its fundamental tacitness. The tacit structure of faith knowing of deep truth engenders implicit knowledge. Essentially this truth is unspecifiable. Remaining implicit, it is known as it is relied upon for knowing something else. How do we teach truth which is, in many ways, fundamentally implicit? One of the primary ways is through attention to metaphor.

The implicit structure of deep faith truth aligns with the implicit structure of metaphor. In contrast to simile, which makes explicit the comparison of two entities, "God is like a rock," metaphor establishes implicit relations among entities, "the rock of our salvation." The Greek term, metapherein, means "to carry over."²¹ Metaphor implicitly carries over, carries the relation. Because the relation in metaphor remains implicit, it functions as a powerful teaching medium for developing the sensitivity and skill for the implicit and tacit knowing of deep truth. In the above metaphor, "the rock of our salvation," the tacit reliance upon rock, i.e. the subsidiary indwelling of rock, as the knower focuses upon salvation constitutes an occasion in the knowing of salvation. The implicitness of rock is crucial in this learning. To focus upon rock is to lose the focus upon salvation; one is not trying to learn about rocks. Rather, the skill to be implemented here is to implicitly rely upon rock, integrating its clues into the focus of salvation. Metaphoric truth depends upon the implicit structure. Nelle Morton says it this way:

If you could say it, you would not need metaphor.
If you could conceptualize it, it would not be
metaphor. If you could explain it, you would not
use metaphor.²²

In the connoisseuring of faith teaching, guiding faith knowers in discerning truth by indwelling implicit structures is a

primary teaching process. The use of metaphor and symbol hones that indwelling skill.

Three, faith knowing of deep truth calls for teaching through metaphor and symbol because of its integral accent upon the novel. Transcendence and mystery essentially link the knower with creative probes and new insights. Indeed, it is from that which is not yet that God calls the faith knower. The knowing of mystery requires the sense that there is always more to what is presently known. Teaching processes which place one on the edge of the new and engage one in reaching into the novel are strong processes for teaching the faith knowing of deep truth. In fact, such teaching calls for a pedagogy of surprise. A pedagogy of surprise which invites the unexpected and elicits openness to it has strong potential for nurturing the deep knowing of mystery.

The potency of "live metaphors"²³ to carry one into the realms of the novel makes them a primary teaching medium for the faith knowing of deep truth. One of most potent forms of live metaphors is the metaphoric form which Paul Ricoeur calls the tensive metaphor. In the tensive metaphor the two components stand in opposition or contradiction.²⁴ The visible tension of incompatible meanings in a metaphor is resolved through the discernment of a deeper reality in which their mysterious unity is accomplished.²⁵ Thus, in its paradoxical nature, metaphor amplifies the reality of deeper structures. Further, this unity of incompatibles is always

unexpected; metaphoric truth heralds a surprise. Nelle Morton describes metaphoric action even more empathically: the metaphor explodes.

Metaphor is not a static word or a frozen image. An image cannot become metaphoric until it is on its way--like a meteor. Where it explodes, or how soon, when it burns out, how long or how far it journeys, are unknowns.... The final metaphoric action is always a surprise, for the new reality it ushers in is like a revelation. James Joyce once called it epiphany because a metaphor reveals itself as in a burst, a celebration, and draws the participant in as celebrant.²⁶

The epiphanic action of a metaphor makes it a potent teaching medium for the knowing of mystery. It is in this action of metaphor that intuition, non-sensuous perception, and passion coalesce into a revelation of deep truth.

In teaching for faith knowing of deep truth, faith connoisseurs need to draw upon processes which employ metaphor and symbol as teaching mediums and upon processes which teach persons how to discern the truth embedded in metaphor and symbol. Studies on faith metaphors and symbols in education as well as metaphoric discourse in worship and meditation are called for. Evoking metaphoric reflection through questions and expressive activities helps sharpen metaphoric insights and skills in faith learners. Specific pedagogies which parallel the synectics model of William Gordon need to be developed and widely used.²⁷ Such teaching processes function to cultivate a pedagogy of imprecision, implicitness, novelty,

and surprise, and therein enhance the faith knowing of deep truth.

Processes of Experience and Action

The teaching of faith knowing of deep truth essentially draws upon teaching processes of experience and action. Since empiricism has informed and continues to inform the activities of many educational curriculums, education has employed experiential methods. However, experiential methods have often been implemented without discerning them as the embodiment of a metaphysical category. In the pedagogy of deep truth, experiential processes emerge from a metaphysical grounding. To discern Whitehead's metaphysical vision is to shift the traditional understanding of teaching itself.

Donald Oliver and Kathleen Gershman describe this shift:

[M]odern teaching begins the process of "coming to know" from the outside. Skills, concepts, and subjects are objects, so to speak, outside the group, possessed by the teacher and given to the students. What is transferred is not shared participation in the common event; it is an object, word, product, or theory that can be written, diagrammed, and tested.²⁸

More specifically, Whiteheadian conceptuality posits that teaching is to be seen as a common participation of teacher and student in an experience. Continuing to describe this shift from the traditional concept to the process concept of the teaching act, Oliver and Gershman assert:

Process teaching on the other hand begins by assuming that teacher, student, curriculum materials (books, crayons, paper, etc.) are all moving into a novel occasion. We do not begin from the special position of nothing (before the class begins) to

'making something happen.' Teacher and student are constantly in the flow of occasions as they move toward fulfillment.... The teacher is not 'transferring' a piece of knowledge or a skill to the student; the teacher is seeking to share a common world with the student as the student enters the world of the teacher and vice versa.²⁹

Faith teaching is not the formulating, handling and transferring of an object, be it a belief, idea, text, or theory, as if one possessed a pre-determined object in a box that could show up in tact as the learner's possession after the teaching act. Rather, faith teaching is embedded in the same reality as all other occasions, the reality of the "coming-to-be," here the "coming-to-be-of-faith." In that bedrock experience, various prehensions from teacher, students, materials, and space come to form the faith occasion. As in all experiences, what prehensions come to be ingredient in the faith occasion cannot be predetermined. Thus, teaching as an act of transmission of pre-determined content is metaphysically untenable.

In contrast to some traditional uses of experience in teaching, experience therefore is not primarily perception, nor reinforcement, but rather is constitutive of the knowledge itself. Upon this bedrock assertion the educational issue in the connoisseuring of deep truth becomes the quality of experiences. Teaching processes which align themselves with the metaphysical nature of the "coming-to-be-of-faith" and function to enhance the experience itself become salient mediums for guiding faith learners. Thus, planning for the

teaching act begins with the central questions: "What can we do?" "What experiences can we engage in which will maximize the potential for deep learning?"

In the pedagogical primacy of experience, the tension between instructional and socialization teaching modes dissipates. The issue at stake is not whether instructional methods or socialization methods are most efficacious in nurturing faith knowing of deep truth. When the educational issue is discerned as the quality and intensity of experiences, then both instruction and socialization methods are seen as potentially able to either invoke or inhibit deep faith knowing. Faith connoisseurs will use both instructional and socialization methods, but always with an explicit focus upon providing opportunities for deep and rich experiences.

Action is one specific form of experience. Given the epistemological category of action knowledge within faith knowing of deep truth, processes which draw upon faith actions are primary teaching mediums. Action teaching processes are inclusive both of those which learners are presented via the embodied act of another and those which engage learners in their own embodied acts. Modeling is a fundamental teaching action within the pedagogy of deep truth. Interpenetration and reliance epistemologically implicate its power for teaching. In addition, action teaching processes include processes which invite and nurture the faith acts of learners.

To act is to enter the teaching-learning interaction at a deep level.

Although many actions are efficacious in the nurture of faith, two action arenas are especially salient for the teaching of deep faith truth. As noted in the previous chapter, the actions of worship and mission are primary community actions for drawing faith learners into the subsidiary indwelling of the community's tradition, authority and world view. Their efficacy in teaching deep faith truth is also attributed to their strong potential for invoking the indwelling of transcendence. The act of submission which essentially links one with transcendence becomes central in acts of worship and acts of outreach. As one embodies ritual acts, one finds oneself doing actions whose meaning cannot be encapsulated within one's own experience nor discerned through one's own resources. Thus, worship engenders the epistemological surrender which fosters the knowing of transcendence. As one embodies acts of mission, one finds oneself doing actions which essentially link one to that which is beyond oneself. Even more deeply, one finds oneself touching that which draws one out. Thus, the intent and passion energized in such direct, concrete, and immediate mission actions actualize the epistemological surrender which undergirds the knowing of transcendence. In the connoisseuring of deep faith truth, teachers need to give

focused attention to the provision of rich worship experiences and meaningful outreach actions.

Processes of Non-Discursive Experiences

Within a Whiteheadian and Polanyian world view, the teaching of deep knowing is fundamentally linked with aesthetic experiences. As Whitehead couches his epistemology in terms of rhythm, vivid values, feeling, appreciation, enjoyment, fullness, organic order, balance, patterned contrast, intensity, novelty, and creativity, he asserts that knowing is a consequence of aesthetic sensibilities. Beauty is an intrinsic quality of knowledge. Polanyi also discerns the congruence of knowing and aesthetic perception. For Polanyi, the integrative and unspecifiable nature of the fundamental act of knowing links knowing with artistic expression.³⁰ For both Whitehead and Polanyi then, to discern the deep patterns of knowing is to discern aesthetic qualities. A pedagogy engendered by this epistemology hinges upon aesthetic methods.

One of the strongest teaching mediums for nurturing aesthetic sensibilities is non-discursive processes. While discursive processes employ verbal schema as ways of knowing and communicating, non-discursive processes implement visual, tonal, and kinesethic ways of knowing and communicating.³¹ Non-discursive teaching processes include a range of experiences from the arts, such as painting, modeling, carving, and pottery, to the symbolic and creative expression

in dance, music, movement, and ritual, to the literary creativity of poetry, story, and drama. The forms, patterns, images, and feelings which are embodied in such non-discursive learning experiences energize a knowing which cannot be reduced to verbal definitions and explanations. This point must be made very clear: non-discursive learning experiences are not supplemental learning experiences. In teaching, the common use of non-discursive processes to reinforce discursive knowledge or to illustrate predetermined conceptual ideas negates the epistemological energy of non-discursive expression. With the Whiteheadian and Polanyian heuristic lens, a different view from this commonly held view upon teaching processes comes into focus. Veracity inheres in non-discursive experiences. In their non-dependence upon discursive modes, non-discursive processes often bring to understanding truth which can be discerned in no other way.³²

The heuristic lens of Whiteheadian and Polanyian thought sharpens even more the discernment into the integral relation between the connoisseuring of deep faith truth and non-discursive teaching processes. Non-discursive teaching processes enhance the knowing of deep faith truth in four ways. One way they foster faith knowing of deep truth is through their nurture of the discernment and appreciation of qualities. Non-discursive expression is the central mode for revealing the qualitative dimensions of life. The tandem emphases in Whitehead of the reality of qualities in nature

(and not in the mind of the knower) and the aestheticness of reality is telling. Qualities are perceived non-discursively. Thus, the absence of non-discursive teaching processes impoverishes, at best, and voids, at worst, the knowing of qualitative reality. As explicated in the previous chapter, faith knowing is necessarily linked to the knowing of qualitative reality. Faith connoisseurs hone the sensibilities of faith learners to the qualitative dimension of life and to its incipient meaning not through teaching processes of analysis and verbal explanations, but through processes of story telling, painting, sculpting, and poetry. Because such processes deeply bear the imprint of qualitative reality, they create an openness to deeper dimensions of living than what persons are ordinarily attuned to.³³ As they place qualities on center stage, non-discursive teaching processes draw knowers into the deep knowing of value, meaning, and truth.

A second way non-discursive teaching processes enhance faith knowing of deep truth is through their inherent nature of intimation. Non-discursive processes express truth not explicitly, but implicitly. Elliot Eisner formulates the intimation function of non-discursive processes this way:

[T]he language of the arts is essentially nondiscursive; that is, it informs not by pointing to the facts of the world but rather by intimation, by using forms to present rather than to represent conception or feeling. Representational symbols, the type used in conventional discourse, are like signposts: they point one toward qualities but are not themselves intended to possess expressive

qualities: "Listen, listen to the bird" is a literal discursive expression, but "Hark! hark! the lark!" contains an energy absent in the former.³⁴

A signpost communicates literally and directly; a poem communicates metaphorically and suggestively. Signposts create little energy as they point away from themselves. But a poem, or a dance, or a story, in and by its intimation, itself contains truth. Innuendo and implication function to draw one into the expression and therein to reveal its latent meaning.

One of the central meanings embedded in intimation is multivalency of truth. Non-discursive expressions are laced with images which convey multiple and sometimes paradoxical insights. As noted previously in the discussion of metaphor, it is the paradoxical and multivalent nature of the images which functions to link one with deeper levels where paradoxical truth is no longer problematic. Non-discursive expressions are anchored in those deeper levels, where in Whiteheadian terms, patterned wholeness necessitates contrast; indeed, where "contrast under identity" is the essence of reality. In non-discursive expression, multivalency is not a threat, but is the medium of depth itself.

In connoisseuring deep faith truth, non-discursive teaching processes function to nurture the discernment and appreciation of the truth in intimation. Given the bedrock of faith truth in a knowledge which is unspecifiable and tacit, non-discursive teaching processes are central to its

nurture. The ambiguity of non-discursive processes is correlative to the implicit nature of deep faith truth. Their intimation actualizes the deep faith experience of "knowing more than we can tell." Through non-discursive teaching processes, faith connoisseuring cultivates a heightened sense of truth, truth which is known essentially by implication.³⁵ Faith knowing of deep truth is nourished by that heightened sense.

A third way in which non-discursive teaching processes enhance faith knowing of deep truth is through their cultivation of empathic indwelling. Non-discursive expressions bring feeling to life.³⁶ Not only do they embody feelings (as in a dance, a painting, a sculpture, or a ritual gesture), they also evoke feelings. One who views a dance, a painting, a sculpture, or a ritual gesture may, by indwelling the subsidiaries of that expression, come to experience those expressed feelings. Far more than analytic descriptions, non-discursive expressions are potent mediums for engendering empathic understanding of persons, situations, and experiences. The connection between the faith knower and other situations, persons, and God is energized by passionate empathy. Non-discursive processes nurture that passionate empathic connection. While ten thousand words describe the tragic wars of Viet Nam and Nicaragua or the droughts of Ethiopia and Somalia, it is the images of youth toting heavy guns and of emaciated bodies and haunting eyes of listless

children which galvanizes the knowing connection. Non discursive expressions arouse interconnective experience. As Douglas Sloan says,

Our capacity to be moved by the world around us and by others depends on our feeling awareness.... An education conceived and pursued with no central place for the life of feeling ... [cannot] produce a society of individuals capable of being moved by the real needs of the earth and the others around them. In this fundamental sense the arts provide the cornerstone of moral education, far more than any special course in ethics or value clarification.³⁷

The power of non-discursive processes to evoke empathic indwelling and to sharpen its epistemological skills makes them salient teaching processes in the connoisseuring of deep faith truth. As non-discursive teaching processes enhance empathic indwelling they nurture deep faith knowing through three channels. One channel is the softening of boundaries between the faith knower and creation, neighbor, and God. The efficacy of non-discursive teaching processes in fostering deep connections through the medium of feeling harbingers a proclivity to intensify the connection between faith learners and creation, neighbor, and God. A second channel is the internal effect upon the faith learner. Non-discursive teaching processes engage the internal, subjective being of knowers. Through story, images, sculpture, faith learners find that the empathic indwelling and knowing of another doesn't just bring them illumination; empathic indwelling changes them. Non-discursive teaching processes intrinsically

function to shape the very being of faith knowers. Paralleling this internal shaping power of non-discursive processes is its third channel. As noted above, the empathic indwelling of non-discursive processes carries potent motivational power. In their power to move knowers into action, non-discursive teaching processes intensify faith knowing of deep truth. The link in faith teaching and knowing between non-discursive teaching processes and action knowledge needs to be cultivated. Through all three of these channels, the channel of deep connections, the channel of internal, subjective being, and the channel of motivation for action, the empathic indwelling nourished by non-discursive teaching processes forms a powerful current in the learning of deep faith truth.

A fourth way in which non-discursive teaching processes enhance faith knowing of deep truth is through their nurture of contextual, particular, and subjective knowledge, knowledge whose fundament is experience. Non-discursive processes keep knowledge inextricably linked with the subject and that subject's experience with God. Such linkage is in contrast to knowledge anchored in discursive teaching processes. Shaped by their rootage in vision, discursive processes advocate knowledge to be disembodied, to be universal, able to be removed from its context, from its subject, from its originating experience. The dependence upon verbalization in print reinforces a knowledge based in distance between knower

and known.³⁸ In contrast, the dependence of non-discursive processes upon images, metaphors, story, as well as the very mediums of hearing, touch, and body movement, reinforces a knowledge based in the very intermingling of knower and known. Non-discursive processes apprise knowledge as always subject related. One cannot know the dancer from the dance, the Jewish people from the story of Mt. Sinai, the Catholic faith person from the crucifix, the Christian from the Eucharist. Thus, faith connoisseurship draws upon non-discursive, upon non vision-dominated, non written, teaching processes for two purposes: (1) to nurture the awareness of this contextual and subject-related nature of deep faith truth; and (2) to engender each faith learner's own contextual and subject-related expression of deep faith truth. In the faith learning of deep truth, hearing the story, and expressing its personal meaning through the touching of paints, clay, or wood, is preferable to reading the story, and listening to its explanation. For in such non-discursive processes, learners find, in Paul Ricoeur's words, "an experience of reality in which invention and discovery cease being opposed and where creation and revelation coincide."³⁹ Here is the heartbeat of the learning of deep truth.

Process of Affective Experiences

For Whitehead and Polanyi, passion has epistemic validity. To discern faith knowing of deep truth as anchored in their paradigms is to discern the knowing of faith to be

essentially informed by passions. Even more specifically, as explicated in the previous chapter, the cornerstone of faith knowing of deep truth is the linking passions. Thus, the connoisseuring of faith must give primary attention to the development of the life of passion in the faith learner.

Explicit focus upon the life of passion within the faith learner calls for teaching processes which have dual purposes: the teaching of emotions and the teaching through emotions. The teaching of emotions requires teaching processes which guide the faith learner in the development of the specific linking passions which are crucial for the knowing of faith. Douglas Sloan explicates a four step teaching strategy for educating emotions which is appropriate for the development of these linking passions.⁴⁰ Sloan encourages educators to teach emotions by:

1. Helping learners develop an appreciation for beauty;
2. Heightening learners' sensitivity to suffering;
3. Developing learners' ability to feel for themselves, to attend to their own experience so that they have and stand by their own feelings;
4. Helping learners discriminate between those feelings that are appropriate to the situation and those that are not.

Connoisseuring of faith attends to the development of a rich emotional faith life in which the faith learner finds him/herself with both a breadth of emotions from which to draw appropriate knowledge in various situations and a depth of

emotions from which to nourish significant acts of indwelling. It is the teaching of emotions which mitigates the vulnerability of faith learners to blind emotion, to emotionalism. Teaching processes for faith knowing of deep truth need to explicitly teach emotions, specifically emotions which link the faith learner with creation, neighbor, and God.

This first purpose of affective teaching processes, to explicitly teach emotions, is accompanied by a second purpose, to teach other content through emotions. Teaching through emotions brings to the faith teaching act a pivotal affective tone. This affective orientation toward content enhances its deep knowing. To guide the faith learner in a view toward creation, neighbor, or God, through the lens of emotion is to align with the metaphysical presence of emotion in all views. Through that alignment affective teaching processes intensify the connectional potency of the knowing experience. They do so by nurturing the interpenetration of the faith knower and neighbor, of the faith knower and God. In their function as the subsidiary clues through which the knower moves into integration, emotions both open a space within the knower for new understanding and present a space within the other for indwelling. Processes which teach content through emotions engender the subsidiary use of emotions and therein nurture interpenetration. Such teaching processes are key in the connoisseuring of deep faith truth.

Processes for Wonder and Reverence

Several years ago an article entitled "The Strangest Age" appeared in Newsweek. Its message heralds a significant portrait of knowers in the modern era.

Perhaps ours is the strangest age. It is an age without a sense of the strangeness of things....

The human race has grown up and lost its capacity for wonder. This is not because people understand their everyday world better than people did in earlier ages. Today people understand less and less of the social and scientific systems on which they depend more and more. Alas, growing up usually means growing immune to astonishment. As G. K. Chesterton wrote, very young children do not need fairy tales because "mere life is interesting enough. A child of 7 is excited by being told that Tommy opened the door and saw a dragon. But a child of 3 is excited by being told that Tommy opened the door." The 3-year-old is the realist. No one really knows how Tommy does it.⁴¹

The process of "growing immune to astonishment" renders learning stale, mechanistic, and impoverished. In Whitehead's triadic educational rhythm, the presence of "romance" reminds all teachers and learners that wonder must be a salient quality in the learning process. As Whitehead says, "cursed be the dullard who destroys wonder."⁴²

Descartes is one who can be seen as vulnerable to Whitehead's curse. While the Aristotelian and Thomistic traditions yoke wonder to knowing by asserting it to be the precondition for learning, Descartes believes humans wonder too much.⁴³ The wonder and contemplation of mystery renders confusion, and becomes an obstacle to clear and distinct ideas. Descartes's elevation of reason makes wonder deeply

problematic. Thus, commensurate with Cartesian conceptuality and the mechanistic world view which it ushers in is the loss of wonder. Education grounded in such a world view becomes an education of words and numbers, an education by which, in Robert Brumbaugh's words, "any sense of wonder and value is bleached out of the student's world."⁴⁴

In the connoisseurship of deep faith truth, wonder is reclaimed as a central, if not the central knowing posture. While the proclivity of other forms of education is to dispel wonder, to explain and clarify, to move toward closure, the essence of faith education is to nurture wonder, to ask unanswerable questions, to cultivate open-endedness. The nature of faith knowledge as indeterminate, unspecifiable, and tacit, calls for teaching processes which engender awe, which nourish wonder.

The epistemological partner of wonder is reverence. Through wonder one experiences reverence. Through reverence one attends to wonder. Matthew Fox notes that reverence means "to revere," "to be awe-struck"; indeed, mysticism itself is "standing wrapped in awe."⁴⁵ The connoisseurship of faith pays special attention to the development of reverence in the faith learner. In Whitehead's pivotal formulation, religious education is an education which inculcates duty and reverence.⁴⁶ For in faith knowing of deep truth, reverence becomes a mode of cognition. Reverence enables the knower to

apprehend qualities in the other which give that one intrinsic value. As Owen Barfield writes:

reverence is not simply a virtue for which we may expect full marks in heaven, or a device for bolstering up the social establishment. It is an organ of perception for a whole range of qualities that are as imperceptible without it as another whole range is imperceptible without an ear for music.⁴⁷

For Whitehead reverence activates the perceptual mode for vivid values. Without it, it is questionable that vivid values can be perceived. The saliency of cognitional reverence for faith knowing of the concrete, of qualities, and therefore of meaning, makes it a fundamental goal in and process for the teaching of faith. The discipline, attentiveness, and sensitivity required for cognition through reverence must be actively honed in faith learners. As a primary perceptual organ, reverence needs educational attention. In many ways, faith connoisseuring conceives education to be an education of appreciation, an education of reverence.

An education for reverence and wonder preserves and sharpens the knowing of mystery. To discern how reverence and wonder cognitively intertwine with mystery one needs to perceive the two channels by which reverence and wonder flow into mystery. Thomas Green explicates these two modes in his exploration of wonder as a teaching process.⁴⁸ Green observes that wonder is of two kinds: (1) wonder as a species of curiosity; and (2) wonder as a species of astonishment and

marvel. In the first mode, wonder and reverence are grounded in an ignorance and a quest for discovery. Here wonder evokes a question and when the answer comes, wonder ceases. Given the indeterminacy of reality, mystery which links with this channel of wonder exists because there is always more to know. Yes, an answer eliminates the wonder of a specific question, but there are always more questions. In Huston Smith's words, "the more we know, the more we see how much we do not know: The larger the island of knowledge, the longer the shoreline of wonder."⁴⁹ The wonder which flows into mystery through this channel is the wonder whose roots lie in the ignorance which sparks curiosity; we do not understand, but given time we can come to comprehend. It is possible to wonder ourselves into answers. This is the wonder commensurate with lack of knowledge. Such wonder becomes a deep motivation to learn.

The second channel by which wonder and reverence flow into mystery is the channel of marvel. Green illumines the nature of this mode of wonder through an experiential illustration. In the first mode of wonder, one's curiosity could be framed, "I wonder who's kissing her now." But in this second mode, wonder takes on a different quality.

There is another kind [of wonder], however, which survives the satisfaction of curiosity. I do not wonder who's kissing her now, nor whom she kisses in return. It is I. But since it is I, and knowing better than most what that truly means, I may wonder at it. How can it be? Is it really so? To wonder in this sense is not simply to lack knowledge. It is not to propose an investigation but to be amazed.

It is to stand astonished, to be surprised, or to marvel.⁵⁰

This wonder is not to be curious, to wonder why or how. This wonder is the act of wondering at or wondering that. Green observes that this channel of wonder may dry up, but it does so not because we know more, because our questions are answered, but because we become blind, because we have no eyes to see. No matter how many answers, no matter how often one experiences situations, this channel of wonder need never dry up. One may see a butterfly thousands of times, but the wonder of it never ceases. For this channel of wonder carries the current of contingency. Usualness, or frequency do not abate this current. Butterflies are both ordinary and remarkable. Their ordinariness does not mitigate their remarkableness.

Whether a thing is wonderful has less to do with its infrequency than with its contingency. The truth that robins' eggs produce robins is related to the fact that they always do; but the marvel of it is related to the fact that though they always do, they need not ever.⁵¹ (emphasis added)

Green observes that there is in this wonder a different merit of truth. Yes, we can explain the biological facts of robins' eggs. But through this channel of wonder we are reminded that though robins' eggs do produce robins, "it need not be; and because it need not be, it is wonderful that it is. All the true explanations in the world will not suffice to reduce the marvel of it."⁵² It is through this wonder and reverence that we are saved from taking it all for granted. For with such

wonder we know there is never a sufficient explanation for robins' eggs, butterflys, love of another; there is never a sufficient explanation for Incarnation, crucifixion, love of God. All is contingent. And the mystery of such contingency is most deeply known through wonder and reverence.

Faith teaching of deep truth calls for teaching processes which engender and nourish wonder and reverence. Teaching processes of contemplation, meditation, and silence cultivate in faith learners the capacity and skills for discerning the wonder of creation, neighbor, and God. One of the primary reasons they do is because such processes enhance learners' perception of the implicate, of that which resides within what is manifest. In teaching, rather than evoking descriptions and explanations, faith connoisseuring fosters contemplative reflection. For in contemplation one exercises intuitive discernment of what is beyond description and explanation, of what is contingent. Fundamentally, such teaching processes as contemplation, meditation, and silence engage faith learners in unfolding the implicate presence of God. The experience-knowing engendered by such processes is not one of seeking to know by finding answers, but one of seeking to know by experiencing contingency, by experiencing mystery and the wonder of it.

Wonder and reverence, by virtue of their inextricable linkage with indeterminacy and contingency, with mystery, yoke the faith knower with depth knowing. Depth knowing calls for

teaching processes which nurture the discernment of the depth which lies within and beneath surface manifestations. Teaching processes of contemplation, meditation, and silence engender wonder and reverence by carrying faith learners deeper, deeper into creation, deeper into the story, deeper into life experiences. In contrast to teaching processes of analysis and explanation, which often function to build foundations of clarity and certainty as stepping stones in the search for new knowledge, these processes carry faith learners deeper into what is common. Through contemplation faith learners find the Holy deeply present in each concrescent occasion, in each common moment. The issue in faith teaching is not the accumulation of knowledge, but the depth of knowing. Thus, faith connoisseuring must resist temptations to faddishly embrace whatever is on the horizon at the expense of deepening the discerning of what is now before one. There is always more knowledge to be learned from the old, old story. Erwin Chargaff recounts a story which says it best:

There is an excellent anecdote that Kaiser Wilhelm I of Germany, Bismark's old emperor, liked to tell. When he still was only King of Prussia he once visited the Bonn Observatory and asked the director a jovial question. "Well dear Argelander, what's new in the starry sky?" The answer came promptly, and it was another question. "Does Your Majesty already know the old?" Whenever the emperor told the story, he is said to have shaken with laughter.⁵³

Wisdom endows knowing with bended knees before the old and before the common. Through the nurture of wonder and

reverence, faith connoisseuring cultivates the deepening which leads to wisdom. To learn through such faith deepening is to be silent, to meditate, and to contemplate.

Conclusion

The pedagogy of deep faith truth is a pedagogy which stands in distinction from more commonly advocated instructional processes. Encompassed within the heuristic web of connoisseuring, faith teaching becomes a process of teaching how to discern and appreciate faith truth. Teaching "how to" anchors the faith teacher in his/her own embodied process of discerning and appreciating. Further, since deep faith truth is essentially marked by mystery, teaching how to discern and appreciate it exercises the teaching processes of deep connections and relationships, intuition and imagination, metaphor and symbol, experience and action, non-discursive experiences, affective experiences, and wonder and reverence. Whether the setting of teaching be the classroom, the fellowship hall, the sanctuary, the board meeting, or the Habitat work site, the connoisseur of deep faith truth participates in the experience-knowing of the "coming-to-be-of-faith" of another through these processes. Through these processes, the connoisseuring of faith is essentially the activity of discerning and appreciating the Holy in the presence of another. It is the experience of continually

deepening one's own knowing of the Holy. It is the
experience-knowing of the poet's words:

I'd rather learn from one bird how to sing
then teach ten thousand stars how not to dance.

NOTES

Chapter 6

¹ E. E. Cummings, cited in Elliot W. Eisner, The Educational Imagination: On the Design and Evaluation of School Programs, 2nd ed. (New York: Macmillan Publishing: 1985), 101.

² Eisner, 101-02.

³ "Connoisseur," The American College Dictionary, 1964.

⁴ Polanyi's epistemology directly reinforces teaching through connoisseurship. See Chapter 4 on Polanyi of this dissertation, pp. 314-17. Whitehead's undergirding of a connoisseurship teaching model is more indirect. It primarily arises from non-sensuous perception and causal efficacy. Knowing through these metaphysical patterns is most often tacit. Also, Whitehead's construct of internal relations explicates the integral relation of knowing and being which often accompanies connoisseurship.

⁵ The word "connoisseuring" is not in the dictionary. However, as a verb form of the noun connoisseurship, it is used here to emphasize an active process. "Connoisseuring" denotes an active process of being a connoisseur as one relates to another in the teaching-learning interaction. The shift from a noun form to a verb form marks a shift from a static state of being to an enactive way of relating and communicating. This study claims that as a unique way of interacting with another, connoisseuring offers a pivotal communicative mode for the teaching of deep faith truth.

⁶ See Eisner, 219. In his chapter Eisner develops a provocative analysis of the relationship between educational connoisseurship (based on the model of the connoisseur) and educational criticism (based on the model of the art critic).

⁷ Moran, 442.

8 See the explications in previous chapters of this dissertation: Chapter 2, pp. 89-94; Chapter 4, pp. 307-10. In Modes of Thought Whitehead argues: "Language halts behind intuition. The difficulty of philosophy is the expression of what is self-evident. Our understanding outruns the ordinary usages of words. Philosophy is akin to poetry. Philosophy is the endeavour to find a conventional phraseology for the vivid suggestiveness of the poet...."

"This reference to philosophy illustrates the fact that understanding is not primarily based on inference. Understanding is self-evidence. But our clarity of intuition is limited, and it flickers. Thus inference enters as means for the attainment of such understanding as we can achieve. Proofs are the tools for the extension of our imperfect self-evidence. They presuppose some clarity; and they also presuppose that this clarity represents an imperfect penetration into our dim recognition of the world around--the world of fact, the world of possibility, the world as valued, the world as purposed." Modes of Thought, 49-50.

9 The definition of intuition as expressive of integration and indwelling has a wider circle of proponents than Polanyi and Whitehead. In his chapter on "Scientific and Poetic Knowledge," Karl Stern cites a study in the late 1950s in which seven meanings of "intuition" were explicated. All seven had one thing in common: "knowledge by union, contrary to knowledge by disassembly." Stern continues his discussion of intuition by citing Henri Bergson's definition: "By intuition is meant the kind of intellectual sympathy by which one places oneself within an object in order to coincide with what is unique in it and consequently inexpressible." Stern, 42-43.

10 See Sloan, Insight-Imagination, 140.

11 Of course imagination is necessary not only for faith knowing of God's call into the Not Yet; it is fundamental in all knowing. Huston Smith and David Bohm recount some paradigmatic illustrations: Newton's conception of gravity and Einstein's notion of the constant speed of light came to them, not as hypotheses or conclusions drawn from logical deduction, but as images; Darwin's theory of natural selection came to him through the image of a branching tree. See Huston Smith, "Beyond the Modern Western Mind Set," 444; Bohm, "Knowledge, Education, and Human Values," Woodstock Symposium, 1980, cited in Smith, "Beyond the Modern Western Mind Set," 444.

12 Mary Warnock, Imagination (Berkeley: University of California Press, 1976), cited in Sloan, Insight-Imagination, 140.

13 The work of Maria Harris is illuminative for understanding the role of imagination in faith education. See Harris, Teaching and Religious Imagination: An Essay in the Theology of Teaching (San Francisco: Harper & Row, 1987).

14 Richard R. Osmer, A Teachable Spirit: Recovering the Teaching Office in the Church (Louisville: Westminster/John Knox Press, 1990), 227.

15 Susanne K. Langer, Philosophy in a New Key: A Study in the Symbolism of Reason, Rite, and Art, 3rd ed. (Cambridge: Harvard University Press, 1957), 144.

16 Sloan, Insight-Imagination, 140. Owen Barfield asserts that imagination is the faculty of meaning making. He states: "[imagination is the] faculty of apprehending the outward form as the image or symbol of an inner meaning." Barfield, "The Rediscovery of Meaning," 64.

17 Nelle Morton, The Journey Is Home (Boston: Beacon Press, 1985), 20-21. In discussion of the cognitive relationships of image and concept, the recognition of the primacy of images is often formulated in terms of its being the "primitive" source of knowing. This formulation can be problematic. When the discussion of the fundamental role of images is primarily oriented toward their preconceptual and prelinguistic nature the description takes on a pejorative tone. Images constitute infantile cognition. When the knower reaches more mature cognitive activity concepts take over. Thus, to return to images in cognition is somewhat suspicious, for to do so is "regressing." For an example of this tone see Fowler, "Faith and the Structuring of Meaning," 24.

In contrast to that tone, this study argues that the cognition of images is not the construct of immaturity, but rather is the substratum throughout a knower's life. Images are not so much pre-conceptual or pre-linguistic as they are sub-conceptual and sub-linguistic. They are operative before conceptualization not because conceptualization is too advanced for them, but because they are not dependent upon conceptualization, indeed because conceptualization depends upon them. Although cognition by images functions much earlier than cognition by concepts, it is never replaced by conceptualization but remains primary throughout the life of all faith knowers.

18 Morton, 31.

19 Gibson Winter, Liberating Creation: Foundations of Religious Social Ethics (New York: Crossroad Publishing, 1981), xii-xiii.

20 Sloan, Insight-Imagination, 85.

²¹ See Green, 57; and Osmer, 227. As Osmer notes, "a metaphor carries meaning over from one domain that is familiar to another that is not."

²² Morton, 210.

²³ Live metaphors are to be contrasted with "dead metaphors." Dead metaphors are metaphors which are used as literal expressions. As Thomas Green says, "they no longer impress their hearers as metaphorical since they are so shrouded in custom and habit." Green, 62.

²⁴ Paul Ricoeur, Interpretation Theory: Discourse and the Surplus of Meaning (Fort Worth: Texas Christian University Press, 1976), 51-52, cited in Winter, 7.

²⁵ See Douglas Sloan's formulation of this point on p. 432 of Chapter 5 in this dissertation.

²⁶ Morton, 152.

²⁷ The Synectic model is a six step pedagogy which uses three forms of metaphor: direct analogy, personal analogy, and compressed conflict. For an explication of this teaching model see Bruce Joyce and Marsha Weil, Models of Teaching (Englewood Cliffs, N.J.: Prentice-Hall, 1972), 233-52.

²⁸ Oliver and Gershman, 186.

²⁹ Oliver and Gershman, 162. Robert Brumbaugh's assertion that given Whitehead's conceptuality the classroom space no longer can be discerned as an "insulating vacuum" is pertinent here. See Brumbaugh, 3 and 25; and also the relevant discussion in Chapter 5, pp. 378-79, of this dissertation.

³⁰ Some explication of the aesthetic rootage of Whitehead's thought was given in Chapter 3. Polanyi's epistemological work with aesthetic expression was not explicitly explored in Chapter 4. For some of his thought on the linkage of knowing and artistic expression see Polanyi and Prosch, Chaps. 4, 5, and 6.

³¹ See Langer for a pivotal exploration of the two modes, especially her chapter on "Discursive and Presentational Forms." Also, Eisner's section on "Discursive and Nondiscursive Knowledge" is illuminative (pp. 224-29).

³² See the work of Maria Harris for a depth exploration of the importance of non-discursive teaching. See especially Harris, Women and Teaching: Themes for a Spirituality of Pedagogy (New York: Paulist Press, 1988); and Teaching and Religious Imagination.

33 Sloan, Insight-Imagination, 222.

34 Eisner, 228.

35 See Mary Elizabeth Moore's article, "Narrative Teaching," for an exploration of how story as a form of indirect communication teaches truths "which cannot be communicated directly." Moore, "Narrative Teaching: An Organic Methodology," Process Studies 17 (Winter 1988): 251-52.

36 Sloan, Insight-Imagination, 219.

37 Sloan, Insight-Imagination, 220-21.

38 Keller and Grontkowski, 220. See pp. 419-21 of Chapter 5 of this dissertation for the exploration of the tension between an epistemology anchored in vision and one anchored in hearing and touch.

39 Paul Ricoeur, The Rule of Metaphor (Toronto: University of Toronto Press, 1977), 246, cited in Sloan, Insight-Imagination, 176.

40 See Sloan, Insight-Imagination, 162-65.

41 "The Strangest Age," Newsweek, 25 July 1977, n. pag., cited in Huston Smith, "Excluded Knowledge," 441-42.

42 Whitehead, The Aims of Education, 32. See Whitehead's chapter, "The Rhythm of Education" in this book for his explication of the three cyclical stages: the stage of Romance, the stage of Precision, and the stage of Generalization.

43 Brumbaugh, 111.

44 Brumbaugh, 16.

45 Matthew Fox, lecture, School of Theology at Claremont, California, 14 November 1988.

46 See Whitehead, The Aims of Education, 14; and The Organization of Thought, 28.

47 Owen Barfield, What Coleridge Thought (Middletown, Conn.: Wesleyan University Press, 1971), 10-11, cited in Sloan, Insight-Imagination, 160.

48 See Green's chapter on "Wondering and the Roots of Motivation" in his book The Activities of Teaching. The

descriptive ideas of the following analysis of the two modes come from that chapter.

⁴⁹ Huston Smith, "Excluded Knowledge," 441.

⁵⁰ Green, 196.

⁵¹ Green, 197.

⁵² Green, 197.

⁵³ Erwin Chargaff, "Knowledge Without Wisdom: The Clatter of Experts," Harpers, May 1980: 48.

BIBLIOGRAPHY

Historical Context: Descartes

- Brady, Ronald. "Goethe's Natural Science: Some Non-Cartesian Meditations." Toward a Man-Centered Medical Science. Vol. 1. Eds. Karl E. Schaefer, et al. Mt. Kisco, N.Y.: Futura Publishing, 1977.
- Caton, Hiram. The Origin of Subjectivity: An Essay on Descartes. New Haven: Yale University Press, 1973.
- Danto, Arthur. "The Representational Character of Ideas and the Problem of the External World." Descartes: Critical and Interpretive Essays. Ed. Michael Hooker. Baltimore: Johns Hopkins University Press, 1978.
- Descartes, Rene. The Philosophical Works of Descartes. Vol. 1. Trans. and eds. Elizabeth Haldane and G. R. T. Ross. Cambridge: Cambridge University Press, 1911.
- . Rene Descartes: Meditations on First Philosophy. Vol. 2. Trans. John Cottingham. Cambridge: Cambridge University Press, 1986.
- Doig, James Conroy. In Defense of Cognitive Realism: Cutting the Cartesian Knot. Lanham, Md.: University Press of America, 1987.
- Gillispie, Charles. Edge of Objectivity. Princeton: Princeton University Press, 1960.
- Grosholz, Emily. "The Three Cartesian Epistemologies." Graduate Faculty Philosophy Journal 12 (1987): 49-80.
- Harries, Karsten. "Descartes, Perspective, and the Angelic Eye." Yale French Studies 49 (1973): 28-42.
- Hatfield, Gary. "The Senses and the Fleshless Eye: The Meditations as Cognitive Exercises." Essays on Descartes' Meditations. Ed. Amelie O. Rorty. Berkeley: University of California Press, 1986.

- Hawthorn, John. "Some Problems with the Cartesian Model of Belief." Philosophy East and West 38 (July 1988): 347-57.
- Hooker, Michael, ed. Descartes: Critical and Interpretive Essays. Baltimore: Johns Hopkins University Press, 1978.
- Judovitz, Dalia. "Representation and Its Limits in Descartes." Postmodernism and Continental Philosophy. Eds. Hugh Silverman and Donn Welton. Albany: State University of New York Press, 1988.
- . Subjectivity and Representation in Descartes: The Origins of Modernity. Cambridge: Cambridge University Press, 1988.
- MacLeish, Norman. The Nature of Religious Knowledge. Edinburgh: T & T Clark, 1938.
- Matson, Wallace I. "Why Isn't the Mind-Body Problem Ancient?" Mind, Matter and Method: Essays in Philosophy and Science in Honor of Herbert Feigl. Eds. Paul Feyerabend and Grover Maxwell. Minneapolis: University of Minnesota Press, 1966.
- Mattern, Ruth. "Descartes's Correspondence with Elizabeth: Concerning Both the Union and Distinction of Mind and Body." Descartes: Critical and Interpretive Essays. Ed. Michael Hooker. Baltimore: Johns Hopkins University Press, 1978.
- Normore, Calvin. "Meaning and Objective Being: Descartes and His Sources." Essays on Descartes' Meditations. Ed. Amelie O. Rorty. Berkeley: University of California Press, 1986.
- Rorty, Amelie O. "Cartesian Passions and the Union of Mind and Body." Essays on Descartes' Meditations. Ed. Amelie O. Rorty. Berkeley: University of California Press, 1986.
- , ed. Essays on Descartes' Meditations. Berkeley: University of California Press, 1986.
- Schouls, Peter. "Descartes and the Idea of Progress." History of Philosophy Quarterly 4 (October 1987): 423-33.

- Sommers, Fred. "Dualism in Descartes: The Logical Ground." Descartes: Critical and Interpretive Essays. Ed. Michael Hooker. Baltimore: Johns Hopkins University Press, 1978.
- Williams, Bernard. Introduction to Rene Descartes: Meditations on First Philosophy. Vol. 2. Trans. John Cottingham. Cambridge: Cambridge University Press, 1986.
- Wilson, Margaret. "Cartesian Dualism." Descartes: Critical and Interpretive Essays. Ed. Michael Hooker. Baltimore: Johns Hopkins University Press, 1978.

Alfred N. Whitehead

- Alston, William P. "Internal Relatedness and Pluralism in Whitehead." Review of Metaphysics 5 (June 1952): 535-58.
- Bennett, John. "Whitehead and a Framework for Liberal Education." Teachers College Record 82 (Winter 1980): 329-41.
- Blyth, John W. Whitehead's Theory of Knowledge. Providence: Brown University, 1941.
- Brumbaugh, Robert S. Whitehead, Process Philosophy, and Education. Albany: State University of New York Press, 1982.
- Code, Murray. Order and Organism: Steps to a Whiteheadian Philosophy of Mathematics and the Natural Sciences. Albany: State University of New York Press, 1985.
- Das, Rasvihary. The Philosophy of Whitehead. New York: Russell & Russell, 1964.
- Dewey, John. "Whitehead's Philosophy." Philosophical Review 44 (March 1937): 170-77.
- Emmett, Dorothy. Whitehead's Philosophy of Organism. 2nd ed. New York: St. Martin's Press, 1966.
- Felt, James W. "Whitehead and the Bifurcation of Nature." Modern Schoolman 44 (May 1968): 285-98.

- Fetz, Reto Luzius. "On the Formation of Ontological Concepts: The Relationship Between the Theories of Whitehead and Piaget." Process Studies 17 (Winter 1988): 262-72.
- Godsey, R. Kirby. "Relation and Substance in Whitehead's Metaphysics." Tulane Studies in Philosophy 24 (1975): 12-22.
- Hartshorne, Charles. "Whitehead's Novel Intuition." Alfred North Whitehead: Essays on His Philosophy. Ed. George L. Kline. Englewood Cliffs, N.J.: Prentice-Hall, 1963.
- Hendley, Brian P. Dewey, Russell, Whitehead: Philosophers as Educators. Carbondale: Southern Illinois University Press, 1986.
- . "Robert Brumbaugh: Towards a Process Philosophy of Education." Process Studies 17 (Winter 1988): 227-31.
- Hocking, William E. "Whitehead as I Knew Him." Alfred North Whitehead: Essays on His Philosophy. Ed. George L. Kline. Englewood Cliffs, N.J.: Prentice-Hall, 1963.
- Howell, Nancy. "Radical Relatedness and Feminist Separatism: A Whiteheadian Inquiry." Unpublished Paper. American Academy of Religion, Western Region. 16-18 March 1989.
- Jentz, Arthur H., Jr. Whitehead's Philosophy: Primary Texts in Dialogue. Lanham, Md.: University Press of America, 1985.
- Johnson, Allison Heartz. Whitehead's Theory of Reality. New York: Dover Publications, 1962.
- Jordan, Martin. New Shapes of Reality: Aspects of A. N. Whitehead's Philosophy. London: George Allen & Unwin, 1968.
- Kirkpatrick, Frank. "Subjective Becoming: An Unwarranted Abstraction?" Process Studies 3 (Spring 1973): 15-25.
- Kline, George L., ed. Alfred North Whitehead: Essays on His Philosophy. Englewood Cliffs, N.J.: Prentice-Hall, 1963.
- Kraus, Elizabeth. The Metaphysics of Experience: A Companion to Whitehead's Process and Reality. New York: Fordham University Press, 1979.

- Lawrence, Nathaniel. "Nature and the Educable Self in Whitehead." Educational Theory 15 (July 1965): 205-16.
- Livezey, Lois. "Women, Power, and Politics: Feminist Theology in Process Perspective." Process Studies 17 (Summer 1988): 67-77.
- Lowe, Victor. Understanding Whitehead. Baltimore: Johns Hopkins University Press, 1962.
- Mack, Robert D. The Appeal to Immediate Experience: Philosophic Method in Bradley, Whitehead and Dewey. New York: King's Crown Press, 1945.
- Norbo, Jorge Luis. "Whitehead's Principle of Process." Process Studies 4 (Winter 1974): 275-84.
- Norman, Ralph V., Jr. "Whitehead and Mathematicism." Alfred North Whitehead: Essays on His Philosophy. Ed. George L. Kline. Englewood Cliffs, N.J.: Prentice-Hall, 1963.
- Oliver, Donald W., with Kathleen W. Gershman. Education, Modernity, and Fractured Meaning: Toward a Process Theory of Teaching and Learning. Albany: State University of New York Press, 1989.
- Plamondon, Ann L. Whitehead's Organic Philosophy of Science. Albany: State University of New York Press, 1979.
- Rorty, Richard. "The Subjectivist Principle and the Linguistic Turn." Alfred North Whitehead: Essays on His Philosophy. Ed. George L. Kline. Englewood Cliffs, N.J.: Prentice-Hall, 1963.
- Schmidt, Paul F. Perception and Cosmology in Whitehead's Philosophy. New Brunswick: Rutgers University Press, 1967.
- Sherburne, Donald W. "Responsibility, Punishment, and Whitehead's Theory of the Self." Alfred North Whitehead: Essays on His Philosophy. Ed. George L. Kline. Englewood Cliffs, N.J.: Prentice-Hall, 1963.
- Suchocki, Marjorie H. The End of Evil. Albany: State University of New York Press, 1988.
- . "Openness and Mutuality in Process Thought and Feminist Action." Feminism and Process Thought. Ed. Sheila Greeve Davaney. New York: Edwin Mellen Press, 1981.

Washbourn, Penelope. "The Dynamics of Female Experience: Process Models and Human Values." Feminism and Process Thought. Ed. Sheila Greeve Davaney. New York: Edwin Mellen Press, 1981.

Whitehead, Alfred N. Adventures of Ideas. New York: Macmillan Co., 1933.

---. The Aims of Education. New York: Macmillan Co., 1929.

---. Concept of Nature. Cambridge: Cambridge University Press, 1920.

---. An Enquiry Concerning the Principles of Natural Knowledge. Cambridge: University Press, 1919.

---. The Function of Reason. Princeton: Princeton University Press, 1929.

---. Modes of Thought. New York: Macmillan Co., 1938.

---. The Organization of Thought. Westport, Conn.: Greenwood Press, 1974.

---. Process and Reality. Eds. David R. Griffin and Donald W. Sherburne. New York: Free Press, 1978.

---. Religion in the Making. New York: Macmillan Co., 1926.

---. Science and the Modern World. New York: Macmillan Co., 1925.

---. Symbolism: Its Meaning and Effect. New York: Macmillan Co., 1927.

Wiehl, Reiner. "Whitehead's Cosmology of Feeling." Whitehead's Metaphysics of Creativity. Eds. Friedrich Rapp and Reiner Wiehl. Albany: State University of New York Press, 1990.

Michael Polanyi

Apczynski, John. Doers of the Word: Toward a Foundational Theology Based on the Thought of Michael Polanyi. Missoula, Mont.: Scholars Press, 1977.

- Barr, John. "Conversion and Penitence." Belief in Science and in Christian Life: The Relevance of Michael Polanyi's Thought for Christian Faith and Life. Ed. Thomas F. Torrance. Edinburgh: Handsel Press, 1980.
- Bennett, John. "The Tacit in Experience: Polanyi and Whitehead." Thomist 42 (January 1978): 28-49.
- Broudy, Harry S. "Tacit Knowing as a Rationale for Liberal Education." Teachers College Record 80 (February 1979): 446-62.
- Early, Thomas. "Polanyi and Process Philosophy." Agora 4 (1979-80): 45-57.
- Gill, Jerry H. "The Case for Tacit Knowledge." Southern Journal of Philosophy 9 (Spring 1971): 49-59.
- . "Of Split Brains and Tacit Knowing." International Philosophical Quarterly 20 (March 1980): 49-58.
- . On Knowing God. Philadelphia: Westminster Press, 1981.
- . "On Knowing the Dancer from the Dance." Journal of Aesthetics and Art Criticism 34 (Winter 1975): 125-35.
- . "Tacit Knowing and Religious Belief." International Journal for Philosophy of Religion 6 (Summer 1975): 73-88.
- . "The Tacit Structure of Religious Knowing." International Philosophical Quarterly 9 (December 1969): 533-59.
- Grant, Colin. "Identifying the Theological Enemy: Polanyi's Near Miss." Modern Theology 3 (April 1987): 255-68.
- Grant, Patrick. "Michael Polanyi: The Augustinian Component." New Scholasticism 48 (Autumn 1974): 438-63.
- Grene, Marjorie. The Knower and the Known. 1974. Reprint. Center for Advanced Research in Phenomenology and University Press of America, 1984.
- Gunton, Colin. "The Truth of Christology." Belief in Science and in Christian Life: The Relevance of Michael Polanyi's Thought for Christian Faith and Life. Ed. Thomas F. Torrance. Edinburgh: Handsel Press, 1980.

- Hall, Ronald L. "Wittengenstein and Polanyi: The Problem of Priviledged Self-Knowledge." Philosophy Today 23 (Fall 1979): 267-78.
- Hardy, Daniel W. "Christian Affirmation and the Structure of Personal Life." Belief in Science and in Christian Life: The Relevance of Michael Polanyi's Thought for Christian Faith and Life. Ed. Thomas F. Torrance. Edinburgh: Handsel Press, 1980.
- Innis, Robert E. "The Logic of Consciousness and the Mind-Body Problem in Polanyi." International Philosophical Quarterly 13 (March 1973): 81-98.
- . "Meaning, Thought and Language in Polanyi's Epistemology." Philosophy Today 18 (Spring 1974): 47-67.
- . "The Triadic Structure of Religious Consciousness in Polanyi." Thomist 40 (July 1976): 393-415.
- Kane, Jeffrey. Beyond Empiricism: Michael Polanyi Reconsidered. New York: Peter Lang, 1984.
- Kroger, Joseph. "Polanyi and Lonergan on Scientific Method." Philosophy Today 21 (Spring 1977): 2-20.
- Kuhn, Helmut. "Personal Knowledge and the Crisis of the Philosophical Tradition." Intellect and Hope: Essays in the Thought of Michael Polanyi. Eds. Thomas A. Langford and William H. Poteat. Durham: Duke University Press, 1968.
- Langford, Thomas A. "Michael Polanyi and the Task of Theology." Journal of Religion 46 (January 1966): 45-55.
- Langford, Thomas A., and William H. Poteat. "Upon First Sitting Down to Read Personal Knowledge." Intellect and Hope: Essays in the Thought of Michael Polanyi. Eds. Thomas A. Langford and William H. Poteat. Durham: Duke University Press, 1968.
- , eds. Intellect and Hope: Essays in the Thought of Michael Polanyi. Durham: Duke University Press, 1968.
- Manno, Bruno V. "Michael Polanyi and Erik Erikson: Towards a Post-Critical Perspective on Human Identity." Religious Education 75 (March-April 1980): 205-14.

- Poirier, Maben Walter. "A Comment on Polanyi and Kuhn." Thomist 53 (April 1989): 259-79.
- . "Michael Polanyi and the Question of 'Objective' Knowledge." Philosophy Today 32 (Winter 1988): 312-26.
- Polanyi, Michael. "Faith and Reason." Journal of Religion 41 (October 1961): 237-47.
- . Knowing and Being. Ed. Marjorie Grene. Chicago: University of Chicago Press, 1969.
- . "Logic and Psychology." American Psychologist 23 (1968): 27-43.
- . "On Body and Mind." New Scholasticism 43 (Spring 1969): 195-204.
- . Personal Knowledge: Towards a Post-Critical Philosophy. Rev. ed. Chicago: University of Chicago Press, 1962.
- . "Science and Religion: Separate Dimensions or Common Ground?" Philosophy Today 7 (Spring 1963): 4-14.
- . Science, Faith and Society. London: Oxford University Press, 1946.
- . The Study of Man. Chicago: University of Chicago Press, 1959.
- . The Tacit Dimension. Gloucester, Mass.: Peter Smith, 1966.
- Polanyi, Michael, and Harry Prosch. Meaning. Chicago: University of Chicago Press, 1975.
- Pols, Edward. "Polanyi and the Problems of Metaphysical Knowledge." Intellect and Hope: Essays in the Thought of Michael Polanyi. Eds. Thomas A. Langford and William H. Poteat. Durham: Duke University Press, 1968.
- Prosch, Harry. Michael Polanyi: A Critical Exposition. Albany: State University of New York Press, 1986.
- Puddlefoot, John C. "Indwelling: Formal and Non-Formal Elements in Faith and Life." Belief in Science and in Christian Life: The Relevance of Michael Polanyi's Thought for Christian Faith and Life. Ed. Thomas F. Torrance. Edinburgh: Handsel Press, 1980.

- Scott, William. "The Gentle Rain - A Search for Understanding." Intellect and Hope: Essays in the Thought of Michael Polanyi. Eds. Thomas A. Langford and William H. Poteat. Durham: Duke University Press, 1968.
- Sobosan, Jeffrey G. "The Tacit Dimension of Faith: A Reflection on Michael Polanyi." Philosophy Today 19 (Fall 1975): 269-79
- Torrance, Thomas F. "The Framework of Belief." Belief in Science and in Christian Life: The Relevance of Michael Polanyi's Thought for Christian Faith and Life. Ed. Thomas F. Torrance. Edinburgh: Handsel Press, 1980.
- . Introduction to Belief in Science and in Christian Life: The Relevance of Michael Polanyi's Thought for Christian Faith and Life. Ed. Thomas F. Torrance. Edinburgh: Handsel Press, 1980.
- , ed. Belief in Science and in Christian Life: The Relevance of Michael Polanyi's Thought for Christian Faith and Life. Edinburgh: Handsel Press, 1980.
- Wagener, James W. "Toward a Heuristic Theory of Instruction: Notes on the Thought of Michael Polanyi." Educational Theory 20 (Winter 1970): 47-53.

Critique of Cartesian and Positivistic Epistemology

- Barfield, Owen. "Historical Perspectives in the Development of Science." Toward a Man-Centered Medical Science. Vol. 1. Eds. Karl E. Schaefer, et al. Mt. Kisco, N.Y.: Futura Publishing, 1977.
- . "Language, Evolution of Consciousness, and the Recovery of Human Meaning." Teachers College Record 82 (Spring 1981): 427-33.
- . "The Rediscovery of Meaning." Saturday Evening Post, 7 January 1961: 36-65.
- . Saving the Appearances: A Study in Idolatry. Middletown, Conn.: Wesleyan University Press, 1988.
- . Speaker's Meaning. Middletown, Conn.: Wesleyan University Press, 1967.

- Barfield, R. H. "Darwinism." Evolution of Consciousness: Studies in Polarity. Ed. Shirley Sugerman. Middletown, Conn.: Wesleyan University Press, 1976.
- Berman, Morris. The Reenchantment of the World. New York: Bantam Books, 1981.
- Bordo, Susan. "The Cartesian Masculinization of Thought." Signs: Journal of Women in Culture and Society 11 (Spring 1986): 439-56.
- . "The Cultural Overseer and the Tragic Hero." Soundings 65 (Summer 1982): 181-205.
- . The Flight to Objectivity: Essays on Cartesianism and Culture. Albany: State University of New York Press, 1987.
- "A Conversation with Owen Barfield." Evolution of Consciousness: Studies in Polarity. Ed. Shirley Sugerman. Middletown, Conn.: Wesleyan University Press, 1976.
- Dewey, John. The Quest for Certainty: A Study of the Relation of Knowledge and Action. New York: Minton, Balch & Co., 1929.
- Keller, Evelyn Fox. Reflections on Gender and Science. New Haven: Yale University Press, 1985.
- Merchant, Carolyn. The Death of Nature: Women, Ecology and the Scientific Revolution. San Francisco: Harper & Row, 1980.
- Rorty, Richard. Philosophy and the Mirror of Nature. Princeton: Princeton University Press, 1979.
- Smith, Houston. "Beyond the Modern Western Mind Set." Teachers College Record 82 (Spring 1981): 434-57.
- . "Excluded Knowledge: A Critique of the Modern Western Mind Set." Teachers College Record 80 (February 1979): 419-45.
- Stern, Karl. The Flight from Woman. New York: Paragon House, 1965.
- Sugerman, Shirley. "An 'Essay' on Coleridge on Imagination." Evolution of Consciousness: Studies in Polarity. Ed. Shirley Sugerman. Middletown, Conn.: Wesleyan University Press, 1976.

Epistemology of Deep Faith Truth

- Bohm, David. Wholeness and the Implicate Order. London: Routledge & Kegan Paul, 1980.
- Bruns, Gerald L. Review of Painting and Linguistics, by Jean Paris. Journal of Aesthetics and Art Criticism 34 (Summer 1976): 507-08.
- Bumbar, Paul. "To Know God...But How?" Religious Education 86 (Winter 1991): 122-33.
- Dykstra, Craig. "Understanding the Place of 'Understanding.'" Religious Education 76 (March-April 1981): 187-94.
- Erikson, Erik H. Childhood and Society. 2nd ed. New York: W. W. Norton, 1963.
- Fowler, James. Becoming Adult, Becoming Christian: Adult Development and Christian Faith. San Francisco: Harper & Row, 1984.
- . "Faith and the Structuring of Meaning." Faith Development and Fowler. Eds. Craig Dykstra and Sharon Parks. Birmingham: Religious Education Press, 1986.
- Freire, Paulo. The Politics of Education: Culture, Power, and Liberation. Granby, Mass.: Bergin & Garvey, 1985.
- Gerhart, Mary, and Allan Russell. Metaphoric Process: The Creation of Scientific and Religious Understanding. Fort Worth: Texas Christian University Press, 1984.
- Gillespie, V. Bailey. The Experience of Faith. Birmingham: Religious Education Press, 1988.
- Goldenberg, Naomi. R. "The Body of Knowledge: 'Religious' Notions in the Convergence of Psychoanalysis and Feminism." Knowing Religiously. Ed. Leroy S. Rouner. Notre Dame: University of Notre Dame Press, 1985.
- Grannell, Andrew. "The Paradox of Formation and Transformation." Religious Education 80 (Summer 1985): 384-98.
- Groome, Thomas H. Sharing Faith: A Comprehensive Approach to Religious Education and Pastoral Ministry. San Francisco: HarperSan Francisco, 1991.

- Heyward, Carter. "The Power of God-with-Us." Christian Century 107 (March 14, 1990): 275-78.
- Huebner, Dwayne. "Religious Metaphors in the Language of Education." Religious Education 80 (Summer 1985): 460-72.
- Jaggar, Alison M., and Susan R. Bordo. Introduction to Gender/Body/Knowledge: Feminist Reconstructions of Being and Knowing. Eds. Alison M. Jaggar and Susan R. Bordo. New Brunswick: Rutgers University Press, 1989.
- Keller, Evelyn Fox, and Christian R. Grontkowski. "The Mind's Eye." Discovering Reality: Feminist Perspectives on Epistemology, Metaphysics, Methodology, and Philosophy of Science. Eds. Sandra Harding and Merrill B. Hintikka. Dordrecht, Holland: D. Reidel Publishing, 1983.
- King, Ynestra. "Healing the Wounds: Feminism, Ecology, and Nature/Culture Dualism." Gender/Body/Knowledge: Feminist Reconstructions of Being and Knowing. Eds. Alison M. Jaggar and Susan R. Bordo. New Brunswick: Rutgers University Press, 1989.
- Lewis, C. S. The Abolition of Man: or Reflections on Education with Special Reference to the Teaching of English in the Upper Forms of Schools. New York: Macmillan Co., 1947.
- Little, Sara. "Religious Instruction." Contemporary Approaches to Christian Education. Eds. Jack Seymour and Donald Miller. Nashville: Abingdon Press, 1982.
- . To Set One's Heart: Belief and Teaching in the Church. Atlanta: John Knox Press, 1983.
- May, Rollo. Love and Will. New York: W. W. Norton, 1969.
- Melchert, Charles F. "'Understanding' and Religious Education." Process and Relationship: Issues in Theology, Philosophy and Religious Education. Eds. Iris V. Cully and Kendig Brubaker Cully. Birmingham: Religious Education Press, 1978.
- . "'Understanding' as a Purpose of Religious Education." Religious Education 76 (March-April 1981): 178-86.
- Mieth, Dietmar. "What Is Experience?" Trans. Sarah Twohig. Revelation and Experience. Eds. Edward Schillebeeckx and Bas van Iersel. New York: Seabury Press, 1979.

- Moore, Mary Elizabeth. Education for Continuity and Change: A New Model for Christian Religious Education. Nashville: Abingdon, 1983.
- . "Narrative Teaching: An Organic Methodology." Process Studies 17 (Winter 1988): 248-61.
- Moran, Gabriel. "Interest in Philosophy: Three Themes for Religious Education." Religious Education 81 (Summer 1986): 424-45.
- Morton, Nelle. The Journey Is Home. Boston: Beacon Press, 1985.
- Nelson, C. Ellis. How Faith Matures. Louisville: Westminster/John Knox Press, 1989.
- Osmer, Richard R. A Teachable Spirit: Recovering the Teaching Office in the Church. Louisville: Westminster/John Knox Press, 1990.
- Palmer, Parker J. To Know as We Are Known: A Spirituality of Education. San Francisco: Harper & Row, 1983.
- . "Truth Is Personal: A Deeply Christian Education." Christian Century 98 (October 21, 1981): 1051-055.
- Panikkar, Raimundo. Lectures. Lexington Theological Seminary. Lexington, Ky. 11-12 October 1989.
- Parks, Sharon. The Critical Years: The Young Adult Search for a Faith to Live By. San Francisco: Harper & Row, 1986.
- Pasch, Alan. Experience and the Analytic: A Reconsideration of Empiricism. Chicago: University of Chicago Press, 1958.
- Sanneh, Lamin. "Particularity, Pluralism and Commitment." Christian Century 107 (January 31, 1990): 103-08.
- Schmidt, Stephen. Guest editorial in Religious Education 82 (Summer 1987): 340.
- Schneiders, Werner. "Experience in the Age of Reason." Trans. John Griffiths. Revelation and Experience. Eds. Edward Schillebeeckx and Bas van Iersel. New York: Seabury Press, 1979.
- Schumacher, E. F. Small Is Beautiful: Economics as if People Mattered. New York: Harper & Row, 1973.

- Sloan, Douglas. "For the Record." Teachers College Record 82 (Spring 1981): 373-79.
- . Insight-Imagination: The Emancipation of Thought and the Modern World. Westport, Conn.: Greenwood Press, 1983.
- . "Toward an Education for a Living World." Teachers College Record 84 (Fall 1982): 1-6.
- Smith, Wilfred Cantwell. Belief and History. Charlottesville: University Press of Virginia, 1977.
- . Faith and Belief. Princeton: Princeton University Press, 1979.
- Webb, Eugene. Philosophers of Consciousness. Seattle: University of Washington Press, 1988.
- Weintraub, Karl J. Visions of Culture. Chicago: University of Chicago Press, 1966.
- Westerhoff, John H. Living the Faith Community. Minneapolis: Winston Press, 1985.
- Winter, Gibson. Liberating Creation: Foundations of Religious Social Ethics. New York: Crossroad Publishing, 1981.

Pedagogy of Deep Truth

- Chargaff, Erwin. "Knowledge Without Wisdom: The Clatter of Experts." Harpers, May 1980: 41-48.
- "Connoisseur." The American College Dictionary. 1964.
- Eisner, Elliot W. The Educational Imagination: On the Design and Evaluation of School Programs. 2nd ed. New York: Macmillan Publishing, 1985.
- Fox, Matthew. Lecture. School of Theology at Claremont. Claremont, Calif. 14 November 1988.
- Green, Thomas F. The Activities of Teaching. New York: McGraw-Hill, 1971.
- Harris, Maria. Teaching and Religious Imagination: An Essay in the Theology of Teaching. San Francisco: Harper & Row, 1987.

- Harris, Maria. Women and Teaching: Themes for a Spirituality of Pedagogy. New York: Paulist Press, 1988.
- Joyce, Bruce, and Marsha Weil. Models of Teaching. Englewood Cliffs, N.J.: Prentice Hall, 1972.
- Langer, Susanne K. Philosophy in a New Key: A Study in the Symbolism of Reason, Rite and Art. 3rd ed. Cambridge: Harvard University Press, 1957.